

# Feed the Future Developing Local Extension Capacity (DLEC)

## Final Report

June 30, 2021

Submitted by Digital Green

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## ACRONYMS

AESA	Agricultural Extension in South Asia Network
AFAAS	African Forum for Agricultural Advisory Services
AGRA	Alliance for a Green Revolution in Africa
AIAEE	Association for International Agricultural and Extension Education
ANPROCA	<i>Agence Nationale de la Promotion Rurale et du Conseil Agricole</i> (National Agency for Rural Promotion and Agricultural Advisory Services, Guinea)
BMGF	Bill & Melinda Gates Foundation
CAES	Customized Agriculture Extension System (Rwanda)
CGIAR	Consultative Group on International Agricultural Research (former acronym)
CoP	Community of practice
COVID-19	Novel coronavirus disease
DICTA	<i>Direccion de Ciencia y Tecnologia Agropecuaria</i> (Directorate of Agricultural Science and Technology, Honduras)
DLEC	Feed the Future Developing Local Extension Capacity project
EAS	Extension and advisory services
FAO	Food and Agriculture Organization of the United Nations
FCDO	Foreign, Commonwealth & Development Office of the United Kingdom
FOGUICA	<i>Forum Guinéen de Conseil Agricole</i> (Guinean Forum for Agricultural Advisory Services)
FY	Fiscal year
GFRAS	Global Forum for Rural Advisory Services
ICT	Information, Communications and Technology
IFPRI	International Food Policy Research Institute
KALRO	Kenya Agricultural and Livestock Research Organization
LOP	Life of project
LWA	Leader with Associate
MEAS	Modernizing Extension and Advisory Systems project
MINAGRI	Ministry of Agriculture and Animal Resources (Rwanda)
NELK	New Extensionist Learning Kit
NGO	Nongovernmental organization
NIFAAS	Nigerian Forum for Agricultural Extension and Advisory Services
PIM	CGIAR Research Program on Policies, Institutions, and Markets
RAB	Rwanda Agriculture and Animal Resources Development Board

RESCAR-AOC	<i>Réseau des Services de Conseil Agricole et Rural d'Afrique de l'Ouest et du Centre</i> (West and Central Africa Network of Agricultural and Rural Advisory Services)
RCT	Randomized controlled trial
RFS	USAID Bureau for Resilience and Food Security
SINEAFH	<i>Foro del Sistema de Extensión Agropecuaria y Forestal de Honduras</i> (Honduran National System for Agricultural and Forestry Extension)
SOILS	Sustainable Opportunities for Increasing Livelihoods with Soils Consortium
USAID	United States Agency for International Development

## EXECUTIVE SUMMARY

The Feed the Future Developing Local Extension Capacity (DLEC) project galvanized diverse extension and advisory service (EAS) stakeholders to measurably improve extension programs, policies and service delivery. DLEC accomplished this objective through three interrelated sets of activities: (i) targeted **diagnostics** on aspects of country EAS systems to identify gaps and opportunities and potential areas for investment; (ii) on-the-ground or action research activities, or **engagements**, that generate evidence and build local capacity to improve EAS; and (iii) mobilization of durable **communities of practice** (CoPs) to advocate for scaling proven approaches.

The five-year (2016-2021) project was led by Digital Green in partnership with the International Food Policy Research Institute (IFPRI) and the Global Forum for Rural Advisory Services (GFRAS). DLEC also worked with CARE International until the end of FY2019, as well as with numerous partners, consultants and vendors throughout the five years of implementation.

This report is divided into two main sections: The section *Description of DLEC Activities and Accomplishments* summarizes all activities undertaken by DLEC over the life of project (LOP) and achievements toward targets. The section *Discussion and Conclusions* provides analyses about what we learned and our legacy. DLEC's accomplishments are also summarized in a [final project handout](#), [recommendations brief](#) and legacy "[project in review](#)" interactive page.

### DLEC by the numbers

During its five years of implementation, DLEC completed 19 diagnostic studies, including 10 comprehensive country-level studies and four specialized studies of youth inclusion in EAS. DLEC published 100 publications, including eight articles published in respected peer-reviewed journals. DLEC conducted 12 engagements across nine countries. DLEC strengthened four regional and six national communities of practice, facilitated knowledge-sharing in 42 events, including annual Community of Practice convenings and webinars, and shared learnings in 67 external events. In total, DLEC influenced improved EAS in 17 countries, reaching over 1.3 million farming households with improved EAS and forging partnerships with 77 pluralistic stakeholders that influence EAS programming locally. Figure 1 provides a snapshot of DLEC's accomplishments. **Annex A** contains all indicators and progress towards life of project targets.

Figure 1. DLEC by the numbers

17 Countries	100 Publications	19 Diagnostic studies	12 Engagements in 9 countries
42 Community of Practice events, webinars, and knowledge sharing events	2,804 People attended DLEC- hosted events	1.3M Farming households benefiting from improved EAS due to DLEC	
77 Partners influenced including NGOs, government, private sector and donors	821 Twitter followers as of June 30, 2021	\$10.6M Leveraged from USAID buy-ins, donors and partners influenced	

## Countries of work

Over the LOP, DLEC worked in 17 countries: diagnostic reports in 13 countries, in-country engagements in nine countries and national CoPs mobilized in six countries. Table 1 summaries DLEC's activities by country.

**Table 1. DLEC activities by country**

Country	Activity	Activity title or name
Bangladesh	Diagnostic study	Bangladesh: Desk Study of Extension and Advisory Services
	Engagement	Market engagement in Bangladesh
	National CoP mobilized	Bangladesh Agricultural Extension Network (BAEN)
Ethiopia	Engagements	(1) Effectiveness of video-enabled agriculture extension in Ethiopia (2) Integrated warning and management system for fall armyworm
Guatemala	Diagnostic study	Youth in Extension and Advisory Services: Guatemala
Guinea	Diagnostic studies	(1) Guinea: Desk Study of Extension and Advisory Services (2) Strengthening Partnerships and Professionalization in Agricultural Extension in Guinea
	Engagement	Strengthening Extension and Advisory Services in Guinea through National Frameworks for Stakeholder Consultation and Coordination
	National CoP mobilized	Guinean Forum for Agricultural Advisory Services (FOGUICA)
Honduras	Diagnostic study	Honduras: In-depth Assessment of Extension and Advisory Services
	Engagement	Best fit extension approaches for Honduras
	National CoP mobilized	Honduran National System for Agricultural and Forestry Extension (SINEAFH)
Kenya	Engagement	Digital extension to control mango fruit flies in Kenya
	National CoP mobilized	Forum for Agricultural Advisory Services – Kenya (KeFAAS)
Liberia	Diagnostic study	Liberia: Desk Study of Extension and Advisory Services
Malawi	Diagnostic study	Malawi: Desk Study of Extension and Advisory Services
Mali	Diagnostic study	Mali: In-Depth Assessment of Extension and Advisory Services
Mozambique	Diagnostic study	Mozambique: Desk Study of Extension and Advisory Services
Myanmar	National CoP mobilized	Myanmar National Extension Forum
Niger	Diagnostic studies	(1) Youth in Extension and Advisory Services: Niger (2) Analysis of Digital Agriculture Extension and Advisory Services in Niger
Nigeria	Diagnostic study	Nigeria: In-depth Assessment of Extension and Advisory Services
	Engagements	(1) Impactful agricultural practices in Nigeria (2) Private sector led extension
	National CoP mobilized	Nigerian Forum Agricultural Extension and Advisory Services (NIFAAS)
Rwanda	Diagnostic studies	(1) Rwanda: Desk Study of Extension and Advisory Services (2) Youth in Extension and Advisory Services: Rwanda (3) Engaging Young Agripreneurs: Options to Include Youth in Private Sector Extension and Advisory Services in Rwanda and Uganda
	Engagements	(1) Using incentive to improve performance of extension services in Rwanda (2) Strengthening digital capacities and integrating youth in public and private extension in Rwanda
Senegal	Diagnostic study	Senegal: In-depth Assessment of Extension and Advisory Services
South Sudan	Engagement	Training private seed companies in digital extension in South Sudan
Uganda	Diagnostic studies	(1) Village Agent Model Study: Likely Effects on the Ugandan Agricultural Sector (2) Engaging Young Agripreneurs: Options to Include Youth in Private Sector Extension and Advisory Services in Rwanda and

Country	Activity	Activity title or name
<i>Global / Regional</i>		Uganda
	Engagement	Integrated digital channels to provide agricultural advice to smallholder farmers and empower women
	National CoP mobilized	Uganda Forum for Agricultural Advisory Services (UFAAS)
	Diagnostic studies	(1) Extension & Advisory Services in 10 Developing Countries (2) Strengthening Private Sector Extension and Advisory Services Portfolio Review Full Report and Executive Summary
	Regional CoPs mobilized	(1) African Forum for Agricultural Advisory Services (AFAAS) (2) Agricultural Extension in South Asia (AESAs) (3) Latin American Rural Extension Services Network (RELASER) (4) West and Central Africa Network of Agricultural and Rural Advisory Services (RESCAR-AOC)

## Influence and scale

Over the LOP, DLEC reached 1.3 million farming households, which have benefited from improved EAS practices either directly through a DLEC engagement or by influencing uptake of approaches and methods by 77 partners, including public agencies, multiple donors, private firms and non-governmental organization (NGO) implementers. Table 2 summarizes DLEC's influence, mainly through financial commitments or via the uptake of strategies, policies or approaches. Additional details about influence and reach are in **Annex B**.

**Table 2. Influence leveraged by DLEC**

Influence type	Partner	Method	Examples
Financial (direct to DLEC consortium partners or indirect via co-funding or budget allocations)	USAID Mission and Bureaus	Buy-in to DLEC leader with associate award	<ul style="list-style-type: none"> <li>USAID/Guinea buy-ins for diagnostic study and engagement</li> <li>USAID RFS buy-in for portfolio review diagnostic study</li> </ul>
	Donors	Funding for projects or activities	<ul style="list-style-type: none"> <li>World Bank funds for project in Kenya to scale DLEC engagement</li> <li>AGRA funds for testing digital extension in South Sudan as a DLEC engagement</li> <li>Expected FAO funds for project in Uganda building on Uganda engagement evidence</li> </ul>
	Implementing partners	Co-funding activities	<ul style="list-style-type: none"> <li>SOILS Consortium financial contribution for Niger ICT diagnostic study</li> </ul>
	Governments	Funding for projects; earmarking government budgets to implement DLEC approaches	<ul style="list-style-type: none"> <li>Government of Netherlands funds to scale Bangladesh market engagement</li> <li>Rwandan Ministry of Agriculture earmarked funds for incentives as demonstrated by DLEC</li> </ul>
	Private sector	Investment	<ul style="list-style-type: none"> <li>Investment from private sector for Loop scaling after Bangladesh engagement pilot</li> </ul>
Uptake (collaboration or adoption of evidence into programming)	USAID Missions and Bureaus	Strategies and policy	<ul style="list-style-type: none"> <li>Portfolio review decision tree for Missions</li> <li>USAID/Nigeria inclusion of DLEC evidence in request for proposal for extension activity</li> <li>USAID/Rwanda citing DLEC diagnostic study as evidence for agricultural extension work in its country development cooperation strategy</li> </ul>
	Donors	Strategies and policy	<ul style="list-style-type: none"> <li>Bill &amp; Melinda Gates Foundation (BMGF) collaboration to organize extension metrics event (including \$92,000 in co-funding)</li> </ul>
	Implementing partners	Approaches	<ul style="list-style-type: none"> <li>Proposed most impactful practice methodology, successfully tested in Nigeria, as basis for Feed the Future extension activity</li> </ul>
	Government	Strategies and policy	<ul style="list-style-type: none"> <li>Liberia government used diagnostic study to</li> </ul>



Influence type	Partner	Method	Examples
			inform needs and request FAO funds <ul style="list-style-type: none"> <li>Kenyan county extension staff using digital extension as per DLEC engagement</li> </ul>
	Private sector	Approaches	<ul style="list-style-type: none"> <li>Kenyan input suppliers using video to share mango fruit fly control methods</li> <li>South Sudanese private sector seed companies using video to share seed variety information</li> </ul>

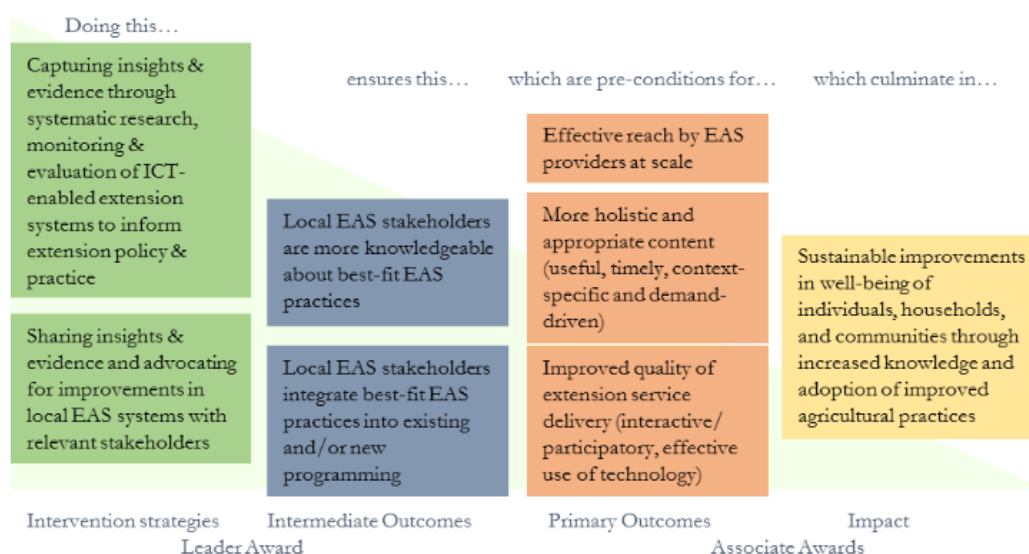
DLEC measures CoP events' effectiveness via the net promoter score, which ascertains participants' opinions, via a survey, regarding whether they are getting useful and actionable information from CoP events. The net promoter score for the final Annual CoP Convening was **57**, exceeding the LOP target of 50 and surpassing past Annual CoP Convening scores. More information about the Annual CoP Convening is provided in subsequent sections and **Annex F**.

## DESCRIPTION OF DLEC ACTIVITIES AND ACCOMPLISHMENTS

### Assessment of progress made toward accomplishing the development impact objectives and expected results

DLEC's theory of change<sup>1</sup> hypothesized that by generating, documenting and sharing evidence about how country EAS can become more pluralistic, with EAS actors having improved capacity to share and monitor knowledge, DLEC with its partners and CoP could influence local EAS systems to become more effective, accountable, scalable and sustainable. The theory of change, illustrated in Figure 2, describes intervention strategies (green boxes), which result in the intermediate outcomes (blue boxes). These intermediate outcomes depict the manageable contributions of DLEC. Reaching the primary outcomes and eventual impact (orange and yellow boxes) requires additional investment and direct implementation of activities that build on the intermediate outcomes through associate awards. DLEC's Theory of Change builds from lessons and recommendations predecessor USAID extension projects, including Modernizing Extension and Advisory Services (MEAS).

**Figure 2. Theory of Change**



<sup>1</sup> Per DLEC's Monitoring, Evaluation and Learning Plan, revised October 2018

While DLEC was able to successfully capture insights and evidence and share these widely via CoPs to influence EAS stakeholders (green boxes) to influence EAS actors integrate and be more knowledgeable about best-fit EAS practices (blue boxes), DLEC was not able to secure any associate awards.

However, DLEC successfully worked with USAID Missions and implementing partners to influence EAS. DLEC catalyzed funds from USAID Missions for buy-ins, as well as leveraged funds from other donors, which were influenced by DLEC's work. Through in-country engagements, tailored diagnostic study recommendations, and support to country and regional CoPs, DLEC was able to reach EAS providers, use appropriate content and improve extension delivery (orange boxes) to sustainability improve EAS and agricultural practices in specific counties and contexts (yellow box).

DLEC's project purpose per its results framework was to sustainably improve EAS in Feed the Future and aligned counties by influencing the design and implementation of EAS programming. This was to be achieved by **integrating evidence-based approaches to relevant, effective and sustainable EAS systems into agriculture sector programming**.

Over the LOP, DLEC **exceeded its three outcome level indicators**, as indicated in Table 3. The number of partners adopting recommendations to improve EAS program operations are those collaborators with whom DLEC directly engaged to influence strategy or plans. The number of households are those that have been served with improved EAS programs. These households include those reached by direct DLEC engagements or by USAID or other donor-funded projects that have incorporated DLEC recommendations in their design to improve EAS systems serving farming households. Lastly, the net promoter score seeks to evaluate, via a survey, how likely is it that a CoP event participant would recommend the DLEC CoP to a friend or colleague, on a rating from 0 (not likely at all) to 10 (extremely likely).

**Table 3. LOP targets and achievements for outcome level indicators**

Indicator	LOP Target	LOP Achieved
Number of partners adopting recommendations to improve EAS program operations	50	77
Number households served with improved EAS programs	1,000,000	1,368,422
Net promoter score for CoP participants	50	57

**Influence.** DLEC influenced 54% more partners than originally expected. This was due in part to the pluralistic nature of effective EAS and the need to work with diverse EAS stakeholders. Most of the work required liaising with stakeholders at multiple levels, from local organizations to national government, from public to private extension, from academia to implementing partners. For instance, the engagement in South Sudan required DLEC to work with nine private sector companies and various NGO members of the Food Security Cluster, a coordination body in South Sudan that include NGOs, UN organizations, donors and government.

DLEC influenced Feed the Future activities too. In Nigeria, DLEC became an “adviser” to the prime implementer, Winrock International, which is using the *most impactful practice* methodology<sup>2</sup> as the basis for the Feed the Future Nigeria Agriculture Extension and Advisory Services Activity.

<sup>2</sup> This approach promotes using a sub-set of good agricultural practices (on average 1-3 practices rather than 7-12 during a production cycle), shown to enable the highest yield and return on investment gains.

DLEC's influence extended beyond uptake of recommendations to commitment of more than \$10.6 million dollars in programming and advocacy for improved EAS services by a combination of USAID, other donors, private sector, and public sector EAS ministries in Ethiopia and Rwanda. Multiple linkages were developed in Bangladesh with Bank Asia and other local firms, projects and extension providers, constituting a comprehensive approach to provide smallholder farmers with continued access to markets, inputs and digital financial services. The Bangladesh engagement catalyzed \$125,000 from the Government of the Netherlands to replicate the approach.

DLEC also influenced USAID offices and Missions, many of which used DLEC research in their project designs, as in USAID Nigeria or invested in EAS activities via buy-ins to DLEC, such as USAID RFS. These investments, totaling \$758,178, are summarized in Table 4. Funds catalyzed by other donors and partners are listed under Activity 1.2 (engagements).

**Table 4. Buy-in funds invested in EAS by USAID**

Source of Funds	Purpose of funds	Amount
USAID Digital Development Lab	Engagement: Integrated digital channels to provide agricultural advice to smallholder farmers and empower women	\$243,268
USAID RFS	Diagnostic study: Youth in Extension and Advisory Services Guatemala, Niger and Rwanda	\$50,000
USAID RFS	Diagnostic study: Strengthening Private Sector Extension and Advisory Services Portfolio Review	\$80,000
USAID RFS	Diagnostic study: Engaging Young Agripreneurs: Options to Include Youth in Private Sector Extension and Advisory Services in Rwanda and Uganda	\$100,000
USAID Guinea	Diagnostic study: Strengthening Partnerships and Professionalization in Agricultural Extension in Guinea	\$20,000
USAID Guinea	Engagement: Strengthening Extension and Advisory Services in Guinea through National Frameworks for Stakeholder Consultation and Coordination	\$264,910

Most recently, DLEC influenced a new project implemented by Michigan State University, which will work with five African universities on curriculum for extension. The DLEC cross-country diagnosis, Extension & Advisory Services in 10 Developing Countries, was used as evidence for planning and developing this new project. In addition, the Comprehensive Africa Agriculture Development Program, under their ex-Pillar IV Africa Regional and Sub-regional Organizations for Agricultural Research and Innovation project, included \$20,000 for AFAAS to conduct NELK training, influenced by DLEC as part of the recent Rwanda engagement.

**Reach.** DLEC exceeded its target for households reached by improved EAS by 36% percent primarily due to our influence in Ethiopia resulting from the *Effectiveness of video-enabled agriculture extension in Ethiopia* engagement (randomized control trial (RCT)), which catalyzed approximately \$600,000 in investment from the Ministry of Agriculture to scale the video-enabled extension approach, reaching 438,488 households with improved EAS. The RCT also influenced the Bill & Melinda Gates Foundation (BMGF) and Foreign, Commonwealth & Development Office of the United Kingdom (FCDO) to invest \$5.5M on a project with video-enabled extension components and integration of IVR and video, which has reached over 180,000 farming households since October 2019.

Furthermore, the incentives schemes engagement in Rwanda reached approximately 35 percent more households than planned, mainly due to radio messaging and targeted activities that led to an increase in farmers reaches in the second season of the work.

**Net promoter score.** DLEC measured CoP events’ effectiveness via the net promoter score. As noted in the executive summary, the net promoter score for the final Annual CoP Convening was 57, exceeding the LOP target of 50 and surpassing past Annual CoP Convening scores. The net promoter score was derived via a survey. The survey itself had low participation (24 percent response rate); presumably those people who filled out the survey are the ones who participated more activity in the Convenings, since the survey link was shared on day 3 of the event and most of the responses were collected then.

Survey responses suggest that that the highly participatory nature of the virtual event appealed to participants and that the information shared was useful to the CoP. Comments from survey respondents included:

- “I found the available resources very useful and applicable to my projects and country.”
- “This is a very open, inviting, and informative group. I think such communities of practice are key to move forward.”
- “Very informative, interactive and engaging. The organization was super!”
- “Genuine spirit of exchanging.”
- “The [Community of Practice] offers an opportunity to share and learn about technical updates and innovations, and provides exposure to really interesting people doing important research and programming.”

As a whole, DLEC’s net promoter score steadily increased (from 24 to 27 to 41) over the years, which we hypothesize that the CoP was increasingly seeing the value of DLEC’s work and convenings, especially as DLEC incorporated survey results and feedback into future planning. However, there was a drop in the net promoter score in March 2020 (33), which could be in part attributed to last minute adjustments given COVID-19 closures and travel restrictions. The increase in April 2021 to a net promoter score of 57 can be attributed to a highly participatory event in times when people may be feeling like passive observers given the ubiquity of virtual events.

## Output 1: Generation and Documentation of Evidence-Based Approaches to EAS Strengthening

The work undertaken by DLEC as part of Output 1 consisted of generating and documenting evidence for strengthening EAS, which was achieved through research shared via diagnostic studies and other publications, and through learnings from on-the-ground engagements. Table 5 shows the achievements toward LOP targets for this output and the following sections includes details about the achievements listed on the table.

**Table 5. LOP targets and achievements for Output 1**

Indicator	LOP Target	LOP Achieved
Number of diagnostics, studies and other publications finalized and shared	30	54
a) EAS diagnostics (desk studies, in-depth EAS system assessments, diagnostics, stakeholder meeting reports) or workshop summaries	11	21
b) Non-academic EAS-related publications	16	25
c) Journal articles	3	8
Number of engagements designed and initiated	14	12

## Activity 1.1: Conduct Diagnostics in Feed the Future Priority & Aligned Countries

DLEC conducted **19 diagnostic studies** over the LOP. DLEC used an adapted version of the **best-fit framework**<sup>3</sup> (Box 1) to guide our analyses of a country's EAS system, compare across countries and connect country-specific cases to broader learning on EAS and apply this to other donor and government programs and priorities. By using this adapted framework, DLEC focused its diagnostic studies on governance structures and policy environment, organization and management capacities and culture, advisory methods, market engagement, livelihood strategies and community engagement.

### Box 1. Best-Fit Framework

The best-fit framework suggests an impact chain approach, where extension components (governance structures, capacity, management and methods) affect their performance. The performance of the services then determines household level outcomes such as changes in behavior and attitudes, which ultimately bring about impact, i.e. yields, income, environmental effects, etc.

Initially, DLEC conducted two types of diagnostic studies: (1) **desk studies** and (1) **in-depth assessments**. Desk studies provide information on the status of EAS in Feed the Future and aligned countries and help determine possible overlap with existing and planned Feed the Future investments. They provide a quick scan of literature and expert knowledge on the countries and provide recommendations for potential EAS interventions. Desk studies have accompanying stakeholder mapping matrices, all which are shared on GFRAS's [Worldwide Extension Study](#) and are DLEC's lasting contribution to EAS data.

In-depth assessments provide contextual information and recommendations for on-the-ground activities and/or engagements, including the governance structures and policy environments, EAS providers' roles and functions, organizational and management cultures and capacities of EAS actors, EAS methods used, and areas where extension can effectively influence livelihood strategies, use market engagement and use community engagement. In-depth assessments were validated in roundtables and other stakeholder fora.

DLEC also conducted a [meta-analysis of ten published DLEC diagnostic reports](#) to draw out lessons for extension globally. The country reports (in order of publication) include Honduras, Bangladesh, Nigeria, Malawi, Liberia, Guinea, Rwanda, Senegal, Mozambique and Mali. This meta-analysis report, as with the desk studies and in-depth assessments, used the best-fit framework to guide analyses.

DLEC also completed a [portfolio review of 28 countries](#) that had received USAID investments in EAS and provided recommendations to USAID in planning future EAS investments to promote private sector EAS. The massive undertaking included a global review of experience and synthesis of lessons learned across countries, with contributions of materials or comments from 46 USAID staff. It provides a framework and decision tree to guide planning and investment in agricultural extension and advisory services. Each country has a portfolio review covering the current EAS status, recent project experience in private sector EAS, a summary of system issues and options to strengthen private sector EAS. This work was funded via a buy-in to DLEC.

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<sup>3</sup> Birner, R., Davis, K., Pender, J., Nkonya, E., Anandajayasekaram, P., Ekboir, J., Mbabu, A., Spielman, D., Horna, D., and Benin, S. (2009). From Best Practice to Best Fit: A Framework for Analyzing Agricultural Advisory Services Worldwide. *Journal of Agricultural Extension and Education* 15(4): 341-355.



During the latter half of the DLEC implementation, diagnostic studies shifted away from studies about a country's EAS systems and structures and instead covered specific issues or aspects of the EAS landscape. These were conducted in response to demand from USAID Missions and/or partners. As a result, DLEC completed six thematic diagnostic studies, most completed with co-funding or buy-ins from USAID Missions or other collaborators. The Bureau for Resilience and Food Security (RFS) Inclusive Development office funded the four youth studies. The Mission in Guinea funded the study on partnerships and professionalism in EAS in Guinea, which led to an additional buy-in to address recommendations from the study via an in-country engagement. The Sustainable Opportunities for Increasing Livelihoods with Soils (SOILS) Consortium, a USAID funded project, co-funded the Niger digital EAS study.

Overall, DLEC surpassed the LOP target for publications by 80% percent. DLEC completed **21 EAS diagnostic related publications** (19 diagnostic studies and 2 workshop summaries). DLEC also published **25 non-academic EAS-related publications**, consisting of articles and blogs about EAS, learnings and findings, and event summaries. DLEC published **eight journal articles** in Journal of Agricultural Extension Education, Journal of Agricultural Economics, and World Development, as described in Table 6. In addition to these publications, DLEC contributed to the EAS knowledge base through engagement-related publications, including research studies (Ethiopia randomized controlled trial (RCT) and Uganda gender and integrated channels), which yielded evidence base necessary to justify investments in integrated digital extension and gender-specific approaches. Inclusive of the diagnostic-related and engagement-related publications, factsheets, blogs, and conference proceedings, DLEC produced a total of **100 publications**.

**Table 6. List of journal articles published based on DLEC research**

Journal article citation	Link
Abate, G., Dereje, M. Hirvonen, K., Minten, B. (2020). Geography of public service delivery in rural Ethiopia. <i>World Development</i> 136(2020).	<a href="https://doi.org/10.1016/j.worlddev.2020.105133">https://doi.org/10.1016/j.worlddev.2020.105133</a>
Davis, K., Lion, K. and Arokoyo, T. (2019). Organisational capacities and management of agricultural extension services in Nigeria: Current status. <i>South African Journal of Agricultural Extension</i> 47(2): 118-127.	<a href="http://dx.doi.org/10.17159/2413-3221/2019/v47n2a508">http://dx.doi.org/10.17159/2413-3221/2019/v47n2a508</a>
Davis, K., A. Ndiaye, and M. Coulibaly. (2019). New Agricultural Advisory Services Governance Models in West Africa. <i>Grain de Sel</i> n°77 - Le conseil agricole a-t-il encore un sens aujourd'hui?	<a href="http://www.inter-reseaux.org/IMG/pdf/1_gds_no77_le_conseil_agricole_a-t-il_encore_un_sens_bd.pdf">http://www.inter-reseaux.org/IMG/pdf/1_gds_no77_le_conseil_agricole_a-t-il_encore_un_sens_bd.pdf</a>
Davis, K., Snider, A., Archibald, T., Grove, B. and Babu, S.C. (2021). Organizational Innovation in Times of Crises: The Case of Extension and Advisory Services. <i>Journal of International Agricultural and Extension Education</i> 28(1): 6-14.	<a href="https://doi.org/10.5191/jiaee.2021.28101">https://doi.org/10.5191/jiaee.2021.28101</a>
Davis, K. and Spielman, D.J. (2017). Applying the Best-Fit Framework to Assess and Strengthen National Extension and Advisory Services. <i>Journal of International Agricultural and Extension Education</i> 24(3).	<a href="https://www.aiace.org/attachments/article/1690/9%20Applying%20the%20Best-fit%20Framework%20to%20Assess%20and%20Strengthen%20Extension%20Services%20revised%20for%20publication%20FINAL.pdf">https://www.aiace.org/attachments/article/1690/9%20Applying%20the%20Best-fit%20Framework%20to%20Assess%20and%20Strengthen%20Extension%20Services%20revised%20for%20publication%20FINAL.pdf</a>
Regassa M. D, Abate G.T., Kubik Z. (2021). Incentivising and retaining public servants in remote areas: A discrete choice experiment with agricultural extension agents in Ethiopia. <i>Journal of Agricultural Economics</i> . 2021;00:1–23.	<a href="https://doi.org/10.1111/1477-9552.12432">https://doi.org/10.1111/1477-9552.12432</a>
Spielman, D., Lecoutere, E., Makhija, S., and Campenhout, B. (2021). "Information and Communications Technology (ICT) and Agricultural Extension in Developing Countries." <i>Annual Review of Resource Economics</i> , Volume 13.	<a href="https://www.annualreviews.org/doi/pdf/10.1146/annurev-resource-101520-080657">https://www.annualreviews.org/doi/pdf/10.1146/annurev-resource-101520-080657</a>

Journal article citation	Link
Van Campenhout, B.; Spielman, D. J.; and Lecoutere, E. (2020). Information and communication technologies to provide agricultural advice to smallholder farmers: Experimental evidence from Uganda. <i>American Journal of Agricultural Economics</i> (103)2021.	<a href="https://doi.org/10.1002/ajae.12089">https://doi.org/10.1002/ajae.12089</a>

One of the reasons that DLEC was able to exceed target the publications target is that the depth and wealth of research and evidence generated could not simply be limited to one report. To appropriately reach stakeholders, the research had to be tailored to reach different audiences and their needs (Box 2). The ease of publishing blogs in Agrilinks or the DLEC consortium's institutional websites, coupled with the reach of social media like Twitter and Facebook, allowed to DLEC to share learnings broadly with the EAS and NGO communities.

### Box 2. Tailoring research for wide dissemination

To share the findings of the youth agripreneurship study with different audiences, DLEC published:

- Three blogs on Agrilinks' Inclusive Development Month (July 2020), targeting USAID staff and development practitioners;
- An article on Rural 21 reaching European audiences;
- Presentation and proceedings for the Association for International Agricultural and Extension Education conference (April 2021), reaching academic audiences.

Aside from researching and writing reports, DLEC made sure the evidence from diagnostic studies was shared widely with the CoP via in-country validation meetings, webinars, and meetings. For instance, DLEC hosted numerous CoP events with policymakers, such presentations for Ministry-level staff in Ethiopia, Guinea, Honduras, Nigeria, and Rwanda and a field day with representatives from Kano State, Nigeria. In Liberia, then Deputy Minister Thomas Gbokie said that DLEC's desk study diagnostic report was used to inform a proposal to the FAO, which was funded to support the Ministry of Agriculture in 2021.

All diagnostic studies, by country, and adjacent publications are listed in Table 7. All publications are listed in **Annex C**.

**Table 7. Diagnostics studies and adjacent publications**

Country	Diagnostic study title and link and relevant adjacent publications
Bangladesh	<a href="#">Bangladesh: Desk Study of Extension and Advisory Services</a> • <a href="#">Bangladesh Stakeholder Workshop Summary</a>
Guatemala	<a href="#">Youth in Extension and Advisory Services: Guatemala</a> • <a href="#">IFPRI discussion paper</a> : Drivers of Youth Engagement in Agriculture. Insights from Guatemala, Niger, Nigeria, Rwanda, and Uganda. • <a href="#">Agrilinks blog</a> : Engaging Youth in Agricultural Extension and Advisory Services. • <a href="#">Agrilinks blog</a> : Youth Inclusion in Guatemala, Niger, and Rwanda • <a href="#">Factsheet</a> : Recommendations for inclusion of youth in extension: Guatemala, Niger and Rwanda
Guinea	<a href="#">Guinea: Desk Study of Extension and Advisory Services</a> <a href="#">Strengthening Partnerships and Professionalization in Agricultural Extension in Guinea</a> • <a href="#">French</a> version • <a href="#">Factsheet</a>
Honduras	<a href="#">Honduras: In-depth Assessment of Extension and Advisory Services</a> • <a href="#">Spanish</a> version
Liberia	<a href="#">Liberia: Desk Study of Extension and Advisory Services</a>
Malawi	<a href="#">Malawi: Desk Study of Extension and Advisory Services</a>
Mali	<a href="#">Mali: In-Depth Assessment of Extension and Advisory Services</a> • <a href="#">Agrilinks blog</a> : New DLEC Report Evaluates the Extension Ecosystem in Mali
Mozambique	<a href="#">Mozambique: Desk Study of Extension and Advisory Services</a>
Niger	<a href="#">Youth in Extension and Advisory Services: Niger</a>

Country	Diagnostic study title and link and relevant adjacent publications
	<ul style="list-style-type: none"> <li>• See “Guatemala” and “Rwanda” for additional publications</li> </ul> <a href="#">Analysis of Digital Agriculture Extension and Advisory Services in Niger</a>
Nigeria	<a href="#">Nigeria: In-depth Assessment of Extension and Advisory Services</a>
Rwanda	<a href="#">Rwanda: Desk Study of Extension and Advisory Services</a> <a href="#">Youth in Extension and Advisory Services: Rwanda</a> <ul style="list-style-type: none"> <li>• See “Guatemala” and “Niger” for additional publications</li> </ul> <a href="#">Engaging Young Agripreneurs: Options to Include Youth in Private Sector Extension and Advisory Services in Rwanda and Uganda</a> <ul style="list-style-type: none"> <li>• <a href="#">Executive Summary</a></li> <li>• <a href="#">Proceedings</a>: AIAEE conference</li> <li>• <a href="#">Article</a>: Demand-driven extension and advisory services – catalysing opportunities for youth in agriculture.</li> <li>• <a href="#">Agrilinks blog</a>: Including Youth in Agriculture through Extension and Advisory Services</li> <li>• <a href="#">Agrilinks blog</a>: Rwandan Youth Engagement in Private Extension and Advisory Services</li> <li>• <a href="#">Factsheet</a>: Youth Engagement in Private Sector EAS: Lessons from Rwanda and Uganda</li> </ul>
Senegal	<a href="#">Senegal: In-depth Assessment of Extension and Advisory Services</a>
Uganda	<a href="#">Village Agent Model Study: Likely Effects on the Ugandan Agricultural Sector</a> <ul style="list-style-type: none"> <li>• <a href="#">Factsheet</a>: Study of the Village Agent Model in Uganda</li> <li>• <a href="#">Article</a>: Scheer, J. 2019. The Village Agent Model and Uganda's Coffee Sector: Facts and Myths. The Coffee Year Book 2018/2019. Uganda.</li> </ul> <a href="#">Engaging Young Agripreneurs: Options to Include Youth in Private Sector Extension and Advisory Services in Rwanda and Uganda</a> <ul style="list-style-type: none"> <li>• See “Rwanda” for additional publications</li> <li>• <a href="#">Agrilinks blog</a>: Private Sector Youth Engagement in Uganda: Is this Sustainable?</li> </ul>
Global / Regional	<a href="#">Extension &amp; Advisory Services in 10 Developing Countries</a> <a href="#">Strengthening Private Sector Extension and Advisory Services Portfolio Review</a> <ul style="list-style-type: none"> <li>• <a href="#">Executive summary</a></li> </ul> Other <ul style="list-style-type: none"> <li>• <a href="#">Event Report</a> and <a href="#">Policy Brief</a>: East Africa CoP Knowledge Sharing Event</li> </ul>

## Activity 1.2: Conduct In-Country Engagements in Feed the Future Priority and Aligned Countries

DLEC completed a total of **12 engagements in nine countries** over the life of the project. Engagements were co-designed with in-country partners or collaborators to ensure local buy-in, ability to reach the right stakeholders, and sharing lessons and results widely. Given the context-specific design of engagements, they varied widely in their scope and, therefore, findings. Some engagements were designed as research projects, yielding concrete evidence via randomized controlled trials (e.g., *Effectiveness of video-enabled agriculture extension in Ethiopia*) or experimentation (e.g., Uganda’s *Integrated digital channels to provide agricultural advice to smallholder farmers and empower women*). Other engagements focused on strengthening, scaling and/or institutionalizing more efficient extension delivery by the public sector (e.g., *Digital extension to control mango fruit flies in Kenya*) or the private sector (e.g., *Training private seed companies in digital extension in South Sudan*). All engagements yielded lessons and recommendations which can be adapted to meet any country and/or extension system’s needs, as described below.

In Malawi, DLEC initiated an engagement that leveraged CARE’s existing Pathways to Secure Livelihoods Program in order to disseminate community-based videos to producer group members. However, this engagement ended early after the initial video production training took place due to changing priorities and the need for a more focused direction with regard to the influence pathways. Engagements in Nepal and Myanmar were also designed but did not proceed.



In the last quarter of the LOP, DLEC finalized the three final engagements:

- In **Guinea**, DLEC, along with RESCAR-AOC and ANPROCA, launched the new Guinean country forum, FOGUICA. We also strengthened this nascent forum by provided training in partnership development and resource mobilization/fundraising.
- In **Kenya**, DLEC conducted a survey to understand the adoption of improved agronomic practices to combat the mango fruit fly, revealing that over 2,000 people watched the videos using digital resources (YouTube, WhatsApp, or other mobile applications). All 25 farmers who attended in-person video screenings reported adopting the recommended practices.
- In **Rwanda**, DLEC focused on ensuring that the customized NELK modules are hosted by an organization who will be able to ensure their use, dissemination, and actualization as needed. The host of the NELK will be the Feed the Future Rwanda Hinga Weze Activity until MINAGRI is ready to host the materials on an online repository.

Brief summaries of all 12 engagements is provided below, including learnings—the main evidence or EAS best-fit practice and leverage of additional investments in EAS resulting from this work.

### **Bangladesh: Market engagement**

*Purpose:* To test a self-sustaining model, Loop, that integrates input and output market linkages, access to advisory services and financial credit for smallholder farmers.

*Results:* Over 5,000 farmers sold more than 18,000 metric tons of fresh fruit and vegetables generating USD 4 million in sales. Participating farmers received 14 percent higher prices for their produce and 25 percent reduction in transportation costs. To address smallholder farmers' limited access to inputs, and at the same time create a potential income source for aggregators during seasons with low produce sales, DLEC formed linkages to bridge gaps between siloed services and provide farmers with a complementary set of financial, market and extension services.

This engagement influenced the Government of the Netherlands and ICCO Cooperation to invest \$125,000 to integrated the integration of participatory video and Loop into the Profitable Opportunities for Food Security program. BMGF and FCDO invested \$15,000 to study Loop's effects on the availability and affordability of fruits and vegetables in nutritionally-vulnerable markets. SNV Netherlands Development Organization leveraged the DLEC aggregators to share weather advisory, plant and growth tips, and pest outbreak alerts. Resulting from the evidence from this engagement and other pilots conducted by Digital Green, venture capital investment firms raised \$3M in funds to spin off Loop into an independent social enterprise.

*Selected outputs:*

- [Video](#): Loop: Pooling Technology and Extension Network for Market Access
- [Blog](#): Reducing Time and Increasing Profits for Farmers in Bangladesh
- [Handbook](#): ICT4Ag Handbook
- [Factsheet](#)

### **Ethiopia: Effectiveness of video-enabled agriculture extension**

*Purpose:* To evaluate the impact of the video-enabled approach on farmers' access to extension, farmer knowledge and adoption of new technologies and practices promoted in the videos, and farm-level yields.

*Results:* Results indicate statistically significant increases in access to extension services and knowledge about the subject technologies and practices, both of which are directly attributable to the video-mediated approach. Results also indicate statistically significant increases in uptake of the practices promoted in the videos, and some (but not convincing) evidence of yield gains. Our estimates indicate that the video-mediated approach led to a 3 to 10 percentage point increases in uptake of many of the technologies and practices (row planting, recommended seeding rates, and urea top or side dressing) recommended for teff, wheat, and maize cultivation. These estimates represent up to a 35 percent increase in uptake of a given technology for a given crop when compared to mean of the control group.

The study also finds greater participation and greater knowledge of female spouses where both male and female spouses were targeted by the program, however, there is no clear evidence that the more inclusive approach translated into higher uptake of the subject technologies and practices. Cost-effectiveness analysis also shows that the video-mediated approach becomes less costly as the scale of operation increases.

This engagement influenced the Ethiopian Ministry of Agriculture to invest funds to institutionalize the video-enabled extension model, reaching 438,488 households. In addition, this engagement influenced BMGF and FCDO to invest \$5.5M to include video-enabled extension in a project focused on developing an agricultural data exchange protocol to enable a broader array of public and private actors to coordinate information sharing. Furthermore, the results of this engagement influenced the Government of the Netherlands and AGRA to invest \$75,000 to promote video-enabled extension in South Sudan (see below for engagement description).

*Selected outputs:*

- [Discussion paper](#): Accelerating Technical Change through Video-Mediated Agricultural Extension. Evidence from Ethiopia.
- [Journal article](#): Information and Communications Technology (ICT) and Agricultural Extension in Developing Countries
- [Project note](#): Opportunities and challenges in field data validation and corroboration: Matching household survey data with project monitoring data in Ethiopia
- [Blog](#): Evaluating video-mediated extension in Ethiopia
- [Factsheet](#)

### **Ethiopia: Integrated warning and management system for fall armyworm**

*Purpose:* To test a multipronged, digital data-driven approach to mitigate the effects of fall armyworm for smallholder farmers in Ethiopia.

*Results:* DLEC collaborated with the Feed the Future Ethiopia Value Chain Activity led by Fintrac to demonstrate an integrated messaging approach to control fall armyworm. Eight localized videos on fall armyworm control practices were produced, viewed by over 25,000 farmers in nine districts in Amhara and Oromia regions. The videos promoted parasitoid and pathogen verification and registration activities, as well as encouraged farmers to call the IVR-based extension information service operated by the Agricultural Transformation Agency to ask questions, report fall armyworm sightings on their plots, and report whether needed treatment chemicals are not locally available.

This engagement showed that it was not simple nor easy to integrate data: Video viewership data, survey data on fall armyworm incidences, and data from pheromone traps all provided different levels of granularity and made the case of the development of an interoperable system where data

sets can be integrated. The finding serves as evidence for the need for an interoperable protocol for data sharing, which was the genesis for BMGF and FCDO's investment that led to the conception of FarmStack.

*Selected outputs:*

- [Factsheet](#)

### **Guinea: Strengthening extension and advisory services through national frameworks for stakeholder consultation and coordination**

*Purpose:* To strengthen EAS in Guinea by establishing an information and knowledge management platform and a national country forum, with a goal of improving livelihoods, income and economic opportunities through agriculture.

*Results:* DLEC undertook a survey of EAS capacity, highlighting the specific needs of the EAS ecosystem in Guinea. The survey examined areas of intervention, organizational characteristics, delivery capacities (including use of ICTs and ability to integrate emerging themes), partnership capacities and capacities for sustainability. One key finding was that though they are registered, most of the EAS organizations are not well structured and do not have good governance system in place, resulting in unprofessional functioning (about 40 to 50 percent of those surveyed). For instance, many organizations did not have financial or human resource systems. Many of these small providers relied on one individual, making sustainability an issue. The majority of providers lacked capacities for partnership, advocacy and networking and knowledge management – including the use ICT's tools, which are unanimously recognized by Guinean actors as having potential for improvement of EAS delivery. As part of this engagement, EAS actors were mapped into an [online repository](#) that lives in ANPROCA's website, serving as a mechanism for coordination between EAS actors. EAS providers are clustered by category (public sector, NGO, producer organization, etc.). Lastly, DLEC and RESCAR-AOC worked with EAS actors and ANPROCA to launch Guinea's national EAS forum, FOGUICA. Working closely with ANPROCA, DLEC helped put together FOGUICA's strategy, work plan, and constitution and bylaws. To strengthen this new forum, DLEC provided training on partnership development and fundraising.



*The Guinean forum for agricultural advisory services, of FOGUICA, was officially launched an event on June 10, 2021 with representation from the Ministry of Agriculture, ANPROCA, and USAID/Guinea. Photo credit: Patrice Djamen*

*Selected outputs:*

- [Blog](#): Laying the Foundation of a National Country Forum in Guinea

### **Honduras: Best fit extension approaches**

*Purpose:* To build capacity of the national government agency overseeing extension provision on participatory and best-fit EAS models to reach smallholder farmers with quality public extension.

*Results:* As part of this engagement, DLEC, via partner CARE International, worked closely with the Honduran Directorate of Agricultural Science and Technology (DICTA) under the Ministry of Agriculture and Livestock. DLEC worked with DICTA to complete extension supply and demand analyses. The supply analysis revealed diverse but fragmented set of actors employing a range of extension models with little to no coordination among them. The demand analysis showed dispersion, limited organized social capital, and low levels of education as the primary barrier to extension services. Using the analyses, DLEC worked with DICTA to strengthen scientific research, knowledge management, and policy development capabilities. Furthermore, the engagement showed the need for joint planning to enable synergies across EAS actors and models and the need for the government to continue investing in capacity building. As a result, this engagement supported the formation of Honduras' EAS forum, SINEAFH.

*Selected outputs:*

- [Factsheet](#)
- [Final report](#)

### **Kenya: Digital extension to control mango fruit flies**

*Purpose:* To build the capacity of government extension system in Makueni County in the use of video-enabled extension and other integrated digital channels, such as mobile applications, to control the mango fruit fly.

*Results:* In total, 2,733 mango farmers in Makueni County received digital content on practices to control the mango fruit fly, either via in-person meetings, WhatsApp, or the KALRO app. Of those farmers receiving in-person screenings (25), 100 percent reported adopting these practices. This engagement influenced the World Bank to invest \$45,000 to scale the video-enabled extension approach in five additional counties in Kenya, reaching an additional 25,735 farmers with over 80 videos of improved agronomic practices across seven priority value chains. The activities under DLEC and the World Bank-funded will be scaled with a grant from TomorrowNow (formerly ClimaCell.org) via their Inspire Challenge funds, to use weather data and advisories, plus last-mile video-enabled extension, to address the desert locust.

*Selected outputs:*

- [Factsheet](#)
- [YouTube channel](#): Videos from Kenya playlist

### **Nigeria: Private sector led extension**

*Purpose:* To use videos to train female dairy producers in hygienic milking practices and cattle health as part of a public-private partnership implemented by FrieslandCampina WAMCO and the regional advisory service Sahel Capital Advisors, in cooperation with Federal Ministry of Agriculture and Rural Development and the governments of Oyo and Kano states.

*Results:* Shifting to a video-enabled approach doubled the processors' reach, improved the quantity and quality of milk they collect, with the quantity of spoiled milk dropping from 40 percent to zero, and made their operations more cost-effective.

### **Nigeria: Impactful agricultural practices**



*Purpose:* To demonstrate a participatory process to identify and promote impactful agricultural practices that are easy for farmers to apply at low cost and have the highest returns on yield.

*Results:* Three demo plots showcasing most impactful practices were set up in Kano State, showcasing practices to 300 farmers. Participatory curriculum development and dissemination of most impactful agronomic practices for the rice value chain resulted in 23-25 percent yield increase compared to control plots. Also, 90 percent of the surveyed farmers indicated their willingness to either start or continue implementing the practices they were trained on. The proven most impactful practices methodology was the basis for a \$16M Feed the Future Agricultural Extension and Advisory Services Activity in Nigeria, awarded by USAID Nigeria to a consortium including Digital Green.

*Selected outputs:*

- [Factsheet](#)

### **Rwanda: Using incentive to improve performance of extension services**

*Purpose:* To identify a sustainable and cost-effective way to motivate and incentivize farmer promoters to improve their performance.

*Results:* Through this engagement, DLEC, via its partner One Acre Fund, worked with 11,523 farmer promoters, who reached 685,00 farmers. Providing high-quality training and incentivizing farmer promoters with inputs improves their knowledge and engagement, leading to more farmers trained and leading to a 37 percent increase in adoption of good agricultural practices and an eight percent increase in farmer knowledge.

The results of this engagement influenced RAB and MINAGRI to earmark approximately \$250,000 in funds for training and incentives for their farmer promoter program (Twigire Muhinzi). This engagement also influenced the Feed the Future Rwanda Hinga Weze to work with DLEC on a subsequent engagement, committing \$150,000 in funds in this collaborative activity, described below.

*Selected outputs:*

- [Factsheet](#)

### **Rwanda: Strengthening digital capacities and integrating youth in public and private extension**

*Purpose:* To strengthen EAS by developing customized digital agriculture extension tools for training farmers, and adapting the New Extensionist Learning Kit (NELK) to the Rwandan context for different audiences.

*Results:* A survey of 500 extension agents provided data on their capacities and their readiness to digitalize, showing that extension agents do not use not have access to digital tools or assets, and therefore appropriate training and digital tools will need to be provided



*Dr. David Spielman presented 'Digital innovation in agricultural extension: Lessons learned from ongoing research' at the e-extension pre-testing workshop in Rwanda. Photo credit: IFPRI Rwanda*

by public and private extension systems as the country seeks to digitize. The survey results were presented at a national extension stakeholder meeting. In total, 33 youth extension agents were trained in video-enabled extension and four videos with improved maize production practices were developed. Six NELK modules were customized to the local Rwandan context, and the e-extension module was field tested, for the first time ever, as part of this work. Hinga Weze presented the customized modules to the University of Rwanda, as they seek to establish a professional certificate program for training extension workers.

*Selected outputs:*

- [YouTube channel](#): Videos from Rwanda playlist
- [Customized NELK modules](#)

### **South Sudan: Training private seed companies in digital extension in South Sudan**

*Purpose:* To build the capacity of nine private seed sector companies in South Sudan in the use of community videos to train farmers on improved agronomic practices.

*Results:* With collaboration and co-funding from AGRA, DLEC trained 25 people, including representatives from nine seed companies and the Food Security Cluster (a working group of NGOs) on video-enabled extension. DLEC also influenced other civil society organizations part of the Food Security Cluster (co-led by the Food and Agriculture Organization (FAO) and World Food Program) in South Sudan to attend the trainings and explore digital extension approaches to train farmers on a wide variety of content, including the control of fall armyworm.

*Selected outputs:*

- [Factsheet](#)

### **Uganda: Community engagement and advisory methods**

*Purpose:* To test (i) the effectiveness of integrated information and communication technologies (ICTs) such as videos, interactive voice response (IVR) systems and short messaging services (SMS) in amplifying agricultural advisory services and (ii) the differential effectiveness of the provision of and exposure to information by gender.

*Results:* Videos on improved farm and crop management practices were effective in delivering information to smallholders. Households that were shown a video on how to become better maize farmers performed significantly better on a knowledge test, were more likely to apply recommended practices, used inputs more efficiently, and reported 10 percent higher maize yields than households that did not view the video. Providing information to both heads of household led to an increase in joint decision-making, increased knowledge retention and greater uptake of practices. Targeting women directly with relevant information in ways that are appealing increases their agency, access to resources, and achievements in farming.

*Selected outputs:*

- [Discussion Paper](#): Information and communication technologies (ICTs) to prove agricultural advice to smallholder farmers: Experimental evidence from Uganda
- [Discussion Paper](#): Women's empowerment, agricultural extension, and digitization: Disentangling information and tole model effects in rural Uganda
- [Factsheet](#): Integrated digital channels to prove agricultural advice to smallholder farmers in Uganda
- [Factsheet](#): Providing information to empower women in agriculture: Evidence from Uganda

- [VoxDev blog](#): Providing information to empower women in agriculture: Evidence from Uganda
- [YouTube channel](#): Videos on the role of gender in ICT-mediated agricultural information campaigns

These engagements not only provided evidence of best-fit EAS approaches, but also catalyzed \$9.9M in additional investments in EAS from non-USG resources, shown in Table 8.

**Table 8. Non-USG funds catalyzed by DLEC**

Source of funds	Purpose and status	Amount	Catalyst
<b>Bangladesh</b>			
Government of the Netherlands and ICCO Cooperation	Integrate participatory video and Loop into Profitable Opportunities for Food Security program (completed)	\$125,000	Bangladesh engagement
BMGF and FCDO	Study Loop's effects on availability and affordability of fruits and vegetables in nutritionally-vulnerable markets (completed)	\$15,000	Bangladesh engagement
Venture capital firms	Spin off Loop into an independent social enterprise providing services to farmers (completed)	\$3,000,000	Bangladesh engagement
<b>Ethiopia</b>			
Ministry of Agriculture	Earmarked funds to scale community video approach in 29 new woredas (ongoing)	\$600,000	Ethiopia RCT results
BMGF and FCDO	Include video-enabled extension and lessons about integrating IVR and video, and fall armyworm data sharing insights in a project developing an agricultural data exchange protocol (ongoing)	\$5,500,000	Ethiopia RCT results
<b>Kenya</b>			
World Bank	Scale video-enabled extension to five additional counties (completed)	\$45,000	Kenya engagement
<b>Rwanda</b>			
RAB and MINAGRI	Earmarked funds in draft FY 19/20 budget for trainings & incentives for volunteer farmer promoters (completed)	\$250,000	Rwanda incentives engagement results
<b>South Sudan</b>			
Government of the Netherlands and AGRA	Use of video to increase awareness and uptake of new seed varieties (completed)	\$75,000	Ethiopia RCT results
<b>Uganda</b>			
FAO	Using ICT to promote climate resilience through a Farmer Field School approach (awaiting final award)	\$200,000	Uganda ICT study
<b>Extension Metrics</b>			
BMGF	Organize convening on a common framework for extension metrics (completed)	\$92,000	DLEC CoP/ Transforming Extension Initiative

## Output 2: Sharing and Advocacy of Evidence-based Approaches to EAS Strengthening

The work undertaken by DLEC as part of Output 2 consisted of sharing knowledge about best fit EAS through events, influencing the agenda of other events, and galvanizing the CoP. Table 9 shows the achievements toward LOP targets for this output.

**Table 9. LOP targets and achievements for Output 2**

Indicator	LOP Target	LOP Achieved
Number of regional or global conferences (non-USAID) for which DLEC influences agenda to include EAS (distinct events)	10	15
Number of instances of participation by individuals at knowledge sharing events coordinated and facilitated by DLEC Community of Practice/stakeholder workshop events	2,460	2,804
Number of registered DLEC CoP members (cumulative #) <i>Indicator discontinued Sept 30, 2020 due to transition of HiveBrite community to GFRAS</i>	1,000	656

## Activity 2.1 Build Communities of Practice for Developing EAS Capacity

DLEC leverages EAS country fora and regional networks to share learning across countries and regions, understand country-specific challenges and advocate for EAS strengthening. During the last five years, DLEC has strengthened and/or mobilized seven country fora and four regional networks (Table 10). Box 3 defines the role of a country forum.

**Table 10. CoPs launched and strengthened**

Country or Region	Forum Name
Bangladesh	Bangladesh Agricultural Extension Network ( <a href="#">BAEN</a> )
Guinea	<i>Forum Guinéen de Conseil Agricole</i> (Guinean Forum for Agricultural Advisory Services, <a href="#">FOGUICA</a> )
Honduras	<i>Foro del Sistema de Extensión Agropecuaria y Forestal de Honduras</i> (Honduran National System for Agricultural and Forestry Extension, <a href="#">SINEAFH</a> )
Kenya	Forum for Agricultural Advisory Services – Kenya ( <a href="#">KeFAAS</a> )
Myanmar	Myanmar National Extension Forum in Myanmar
Nigeria	Nigerian Forum for Agricultural Extension and Advisory Services ( <a href="#">NIEAAS</a> )
Uganda	Uganda Forum for Agricultural Advisory Services ( <a href="#">UFAAS</a> )
Africa	African Forum for Agricultural Advisory Services ( <a href="#">AFAAS</a> )
South Asia	Agricultural Extension in South Asia Network ( <a href="#">AESA</a> )
Latin America	Latin American Network for Rural Extension Services ( <a href="#">RELASER</a> )
West and Central Africa	<i>Réseau des Services de Conseil Agricole et Rural d'Afrique de l'Ouest et du Centre</i> (West and Central Africa Network Agricultural and Rural Advisory Services, <a href="#">RESCAR-AOC</a> )

### Box 3. The role of a country forum

“Country fora are the building blocks of the regional networks as they assure information sharing about conditions and developments in a specific country to the regional and international level. At the same the country fora serve as an entry point for regional and international initiatives in improving rural advisory services and rural livelihood in general.”

(Source: GFRAS [website](#))

The extent of the activities with each country fora or regional networks varied depending on their needs and capacity levels. A highly capable regional network like AFAAS or country forum like UFAAS became de facto partners in various activities. UFAAS, for instance, is recognized as a neutral platform to bring together key EAS stakeholders in Uganda. As such, they galvanized the head of extension and the commissioner for extension to attend the DLEC annual convening in 2019. UFAAS contributed to the youth agripreneurship study by conducting in-country research with the guidance of the DLEC team and leading two validation workshops in Uganda. AFAAS and KeFAAS were

extremely active in the planning and organizing of the East Africa CoP, taking charge in the design of the virtual event to ensure it meets the needs and expectations of African EAS stakeholders.



In other cases, DLEC helped galvanize the fora. With support from DLEC, RELASER was able to mobilize EAS stakeholders in Honduras through SINEAFH, which will help coordinate EAS going forward. DLEC, with RESCAR-AOC, formed and strengthened FOGUICA.

In Myanmar, the National Extension Forum was brought together in various events to discuss the challenges and opportunities in agricultural extension in Myanmar, including the role of agricultural education, pathways to modernization and research-extension linkages. These events included representatives from the Department of Agriculture and Department of Agricultural Research at the Ministry of Agriculture and Livestock, as well as USAID, other donors, and international and local organizations.

Working through the GFRAS structure contributes to the sustainability of these CoPs. Instead of being something created by and for a project, they are part of a global structure and grounded in local, durable organizations rather than projects. As part of the GFRAS network, they gain greater connections and collaboration for professionalization of EAS, advocacy support, peer exchange, and facilitation of knowledge exchange.

The GFRAS structure reaches smallholder farmers via the regional rural advisory services networks, which are made up of national-level platforms. The national platforms include actors from all sectors working in rural advisory services and directly with smallholders. National platforms help prioritize national-level issues and formulate demands to be taken to the regional and global levels.

GFRAS also maintains the New Extensionist Learning Kit (NELK), consisting of 16 modules, have been used in over 35 countries and eight universities. NELK materials are being mainstreamed into universities around the world. More than 5,000 users have taken NELK courses online. DLEC trained 14 people as NELK master trainers. GFRAS, working with BAEN, completed the NELK customization guidelines and customized training module on facilitation for development for Bangladesh. Although the guidelines are specific to the facilitation for development module, the description of the process for customization is widely applicable to any NELK module. This sets the methodology for future customization processes and for extension agencies and/or practitioners to continue building future extension capacities via the NELK. These guidelines were used to customize the six NELK modules for Rwanda.

## Activity 2.2 Organize and Facilitate CoP and Other Learning Events

Over the LOP, DLEC **organized 42 knowledge sharing events**, reaching **2,804 attendees**. These events ranged from country-level CoP gatherings to global Annual CoP convenings, as well as webinars and brown bag meetings. Country or regional CoP events focused specific issues to support EAS in those countries or regions, such as introductions to NELK materials or sharing analyses with EAS stakeholders. Annual CoP convenings focused on broad areas of interest for the DLEC CoP and EAS community, such as future extension capacities, envisioning the future of extension, and data-driven extension. Webinars and brown bag events served to disseminate the learnings and findings of DLEC's research, but also to general information of interest to EAS stakeholders, such as commercially viable climate-smart EAS, locust intervention approaches, post-harvest handling extension services, gender-inclusive market oriented extension models, etc. Given Covid-19, in the last year and a half, all DLEC events have been virtual, which has allowed to bring together audiences and speakers from all over the world at once.

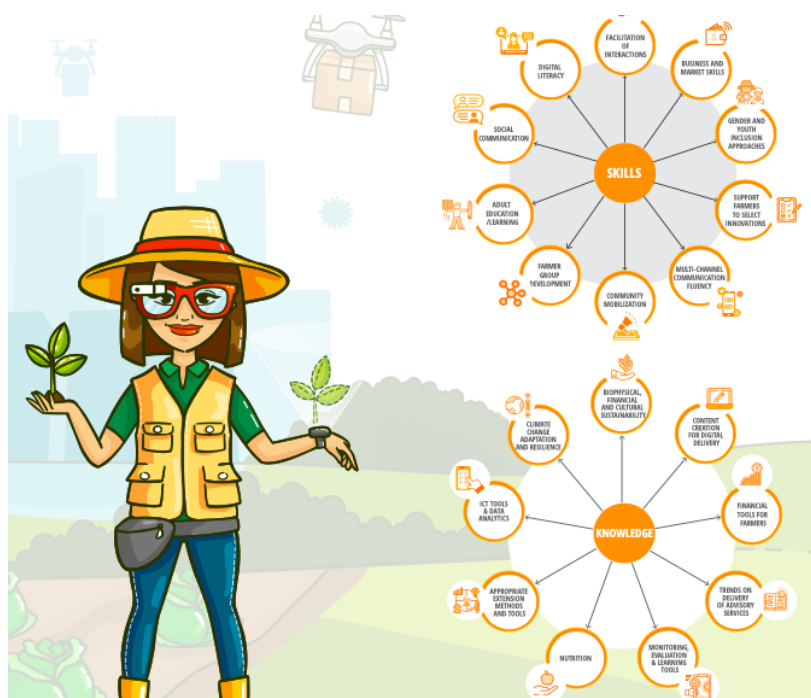
Aside from the diagnostic studies and related publications, DLEC worked on the **extension metrics initiative** along with USAID, the World Bank and BMGF, with a goal of developing a globally-accepted framework to measure the performance of EAS. Common metrics would enable the public sector to better collect and use data for decision making; enable synergies across pluralistic EAS providers; and promote cross-country learning. The work related to extension metrics was shared widely in a workshop in 2018 in Addis Ababa, co-hosted with BMFG, as well as an Agrilinks webinar in 2019. These events helped elucidate that standardizing metrics may be too complex, especially across many resource-poor countries. As a result, the initiative promotes a dashboard approach instead, where countries can choose relevant metrics to measure.

The last major event organized by DLEC was the **Annual CoP Convening**, which took place virtually on April 20-22, 2021. The event brought together 152 agricultural EAS stakeholders from around the world, including seven USAID staff, to share, learn and network. The Convening served as a forum for diverse participants to share their experience around issues of extension capacities. The DLEC team had reviewed all diagnostic studies and other relevant reports to identify key EAS recommendations. One challenge in EAS that was consistently brought up in the review was the need to strengthen extension capacities and curricula—including but not limited to soft skills and business skills for extension agents, in-service opportunities for extension agents and better curricula at all levels, from farmers to vocational training or university. With this in mind, DLEC focused its final Annual CoP Convening on *Future Extension Capacities* and how, as a community of extension practitioners, we can support public and private EAS providers to build the skills of their workforce in support of farmers and rural livelihoods, using tools as the NELK, as well as others from the community.



*The Annual CoP Convening was held virtually, with 152 participants joining over three days of activities. Photo credit: DLEC*

The agenda had three main themes: **connecting** as a community, **learning** from each other, and **supporting** our community into the future. On day one, Dr. Jessica Bagdonis, Human and Institutional Capacity Development Advisor at USAID, delivered the keynote speech focusing on USAID’s approach to inclusive development, including local capacity development, gender equality, and the use of digital tools. She presented the seven principles of local capacity development, which were referred to often by participants throughout the three days of the Convening, as well as the underlying principle of *do no harm*. On day two, as part of learning, four NELK modules were introduced to participants. DLEC CoP members also presented their research, project work, and/or solutions to the community in an interactive poster session. On day three, five lightning talks showcased how to tailor extension approaches to the local context and participants reflected on ways to stay connected as a community of practice. The event ended with closing remarks from Dr. Rob Bertram, Chief Scientist at USAID’s Bureau for Resilience and Food Security, DLEC’s consortium leadership, and Mr. John Peters for USAID. Last, but not least, Dr. Namukolo Covic from IFPRI recited a poem about food security.



*The infographic (shown here in draft form) will contain spokes showcasing the skills, knowledge and attitudes needed by the extension agent of the future.*

In the last three months of the LOP, DLEC and the CGIAR Platform for Big Data in Agriculture worked together on an initiative focusing on the skills, knowledge and attitude needed by an extension agent. This combines the CGIAR Platform for Big Data in Agriculture’s *Extension Agent of the Future* work with DLEC’s April 2021 Annual CoP Convening emphasizing future extension capacities. DLEC and the CGIAR Platform for Big Data in Agriculture co-developed an infographic showcasing the skills, knowledge and attitudes needed by an extension agent, which will be unveiled at a later date.

Over the LOP, DLEC staff and representatives participated in **67 conferences as speaker or presenters**. These events were attended by more than 5,000 people within the EAS, agriculture, research, and ICT communities. In the last three months of the LOP, Dr. Steven Franzel presented findings from the Rwanda and Uganda youth agripreneurship study at the Association for International Agricultural and Extension Education’s 2021 Conference and Dr. Kristin Davis presented research and finding on video-mediated agricultural extension in Ethiopia to a group of graduate students from Texas A&M University. A list of events DLEC has hosted and participated in are summarized in **Annexes D and E**.

Given DLEC’s mission to share knowledge and sustain a community of practice, DLEC shared information about its work and events widely using multiple channels, including the DLEC

consortium members' websites ([Digital Green](#), [IFPRI](#) and [GFRAS](#)), through our [legacy interactive](#), as well as in the CGIAR Research Program on Policies, Institutions, and Markets ([PIM](#)) website. DLEC also shared information about the project on social media, including [Facebook](#) and [Twitter](#) (as of June 30, 2021, DLEC had 822 Twitter followers gained over the LOP).

The final repository of project information is DLEC's [Agrilinks](#) page, which includes links to all project reports, materials, and sources of information.

## DISCUSSION AND CONCLUSIONS

What did we learn from five years of DLEC, and how can this inform extension in general and similar programs in particular? We examine the significance of DLEC activities, importance of the research findings, lessons learned, and future challenges and opportunities. Finally, we give recommendations for future extension programming.

### Significance of Activities

DLEC's reach was wide-ranging, in part due to the strength in the project implementation model, which brought together three very different organizations: digital expertise and implementation in Digital Green, research and policy in IFPRI and community and advocacy in GFRAS.

At the start of DLEC we considered the final project evaluation and lessons learned from the completed project Modernizing Extension and Advisory Systems (MEAS) to guide DLEC. Recommendations from the MEAS final report were embedded into our work to ensure we built on the earlier investment. However, DLEC focused on **action-orientation** since the MEAS work was research-focused, and we focused on enhancing efforts to generate and disseminate evidence via our research, and building on the work of MEAS, the Integrating Gender and Nutrition within Agricultural Extension Services (INGENAES) and other relevant program outputs. At the same time, we used empirically-based evidence to inform action. For example, DLEC reached over one million farmers, scaling results by working with key implementing partners, governments and USAID Missions. Our research results and engagements led to action and to commitment (see page 5 and Annex B). DLEC also targeted priority areas for strengthening extension, such as ICTs, capacity development and monitoring and evaluation via the extension metrics work. DLEC also emphasized coordination among extension stakeholders via the CoP and GFRAS network.

There were also large **spillover** effects in some cases, in part by working through the GFRAS regional and country communities of practice. These helped influence country government policies in the case of Liberia's Ministry of Agriculture extension project and donor's approaches as with the FAO in Uganda. We were also able to influence Missions, in Nigeria with the design of the Feed the Future Nigeria Agriculture Extension and Advisory Services activity and the CDCS in Uganda.

DLEC provided a mechanism for convening the multi-donor **Transforming Extension Initiative**, which tried to influence how EAS are invested in and implemented. Due to growing interest in the reinvigoration of EAS, the World Bank, BMGF and USAID convened the Initiative, which represented a commitment to a strategic vision for EAS that each donor intended to reflect in its individual or collective efforts related to EAS. The Initiative promoted EAS models based on the



“best-fit” framework with a special emphasis on integrating public and private services and leveraging appropriate digital technologies more deliberately. The Initiative’s call to action included pluralistic EAS, digital extension use, a demand-driven approach, accountability, and evidence-based, which aligned with DLEC diagnostic findings across countries. Following initial discussions, the Initiative proposed formulation of a shared learning agenda for cross-country extension research, including common metrics for cost effectiveness and impact. The common metrics idea culminated in a global webinar where DLEC was able to contribute inputs to metrics-related work led by the FAO, as well as recommendations to country governments on the use of extension metrics.

In addition to reaching many types of stakeholders around the world, DLEC provided evidence on EAS in many different formats and venues, ensuring that the learnings could be taken up by **diverse audiences**. For instance, engagements in Ethiopia and Uganda allowed DLEC to conduct rigorous research on the use of digital extension tools such as video and interactive voice response. These findings were presented at international scientific meetings, published as IFPRI discussion papers and submitted to journals. Other learnings were presented at national, regional or global level convenings of the EAS community of practice that were more focused on practitioners and engaging the private sector. We shared specific findings from the Honduras diagnostic and engagement with EAS stakeholders in that country. We held four webinar sessions in East Africa with the Kenya and Uganda country forums and published a brief for policymakers based on our work on youth and private sector engagement in the region.

DLEC’s **legacy** is summarized in an “interactive [infographic](#),” providing a visually appealing overview of DLEC, key findings, recommendations and links to all DLEC materials. This will continue to be a one-stop site for all the DLEC learnings into the future.

## Importance of Research Findings

The DLEC project based its analytical framework on the well-known “best-fit” framework by Birner et al. (2009), adapting it to include market engagement, livelihood strategies and community engagement<sup>4</sup>. The research, described earlier, ranged from national assessments of EAS systems, topical diagnostics such as private sector and youth and experimental research using RCTs to show strong evidence for use of gender-sensitive digital tools in extension. Results were also packaged for different audiences; and in some cases, meta-reviews and large multi-country evaluations were done.

Due to DLEC and the previous MEAS project, empirical literature on returns to extension, and specifically on digital approaches, has increased significantly. This literature has been transferred to GFRAS as a public good for the EAS ecosystem at large. DLEC contributed rigorous research on information and communication technologies to provide agricultural advice to smallholder farmers using experimental evidence in Uganda, on accelerating technical change through video-mediated agricultural extension using evidence from Ethiopia and provided a review of ICT and agricultural extension in developing countries in the Annual Review of Resource Economics. We also conducted Rwanda’s first-ever representative sample survey of extension workers in the public, private and nongovernmental sectors to determine their digital readiness and readiness to change.

Research results were published in high-ranking peer-reviewed journals. The experimental approach in Uganda to provide advice farmers, varying the sex of the provider and of the receiver of










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<sup>4</sup> Davis, K. & D. J. Spielman. (2017). “Applying the Best-Fit Framework to Assess and Strengthen National Extension and Advisory Services.” *Journal of Agricultural and Extension Education* 24(3). doi: 10.5191/jiaee.2017.24307.

information, was published in the [American Journal of Agricultural Economics](#). Findings from Uganda and Ethiopia were included in a review of ICT extension in the [Annual Review of Resource Economics](#). The research findings quickly found their way to significant users. For example, Dr. Michael Kremer, the Harvard University economist and 2019 Nobel laureate in economics, gave a presentation at an International Fund for Agricultural Development-sponsored [webinar](#) in June 2020 where he referenced the [DLEC study in Uganda](#) led by IFPRI.

A summary of DLEC's research findings over the years is found in a [recommendations brief](#) and our infographic, also summarized on Table 11.

**Table 11. Research findings: Recommendations for strengthening local EAS capacity**

Recommendation	
	<b>Pluralism.</b> Pluralism is effective when all partners work together for joint outcomes. Coordination is key to ensuring stakeholders support each other and to avoid replication. While there is a trend toward privatization of sustainable business models, government still plays a key coordination role.
	<b>Enabling Environment.</b> Governments play a key role in creating an enabling environment. National agricultural extension policies are needed to promote collaboration, define roles and responsibilities and better coordinate activities
	<b>Curriculum development.</b> Curricula must be overhauled for market-orientation, relevance, and inclusion. Professionalization is needed through in-service, continuing education on areas such as functional skills business and market skills, and gender, youth and nutrition-sensitive approaches.
	<b>Women in extension.</b> Women should be included women in training and provided opportunities to become extension agents. Programs should target women within households (not just the male co-head) with information; this has a positive effect on empowerment.
	<b>Youth in extension.</b> Youth must also be included, and intervention designs should take youth heterogeneity into account and to take advantage of digital tools. More in-depth studies are needed to identify the right incentives and opportunities to bring youth into agriculture and extension.
	<b>ICT in extension.</b> Digital EAS and ICTs are prevalent but still mostly at pilot level and there is need for analysis, tailoring, M&E and scaling. Local contexts (digital literacy, smartphone use, internet penetration, cost of data plans) are critical. Different channels can complement one another. Use of ICTs should be inclusive and not leave behind those with poor access to digital tools or who lack digital literacy. Secure, quality data can help with targeting and tailoring messages
	<b>Climate change.</b> More climate-sensitive capacities are needed to ensure that EAS approaches build resilience. More in-depth studies are needed on how to incorporate climate change considerations and resilience into curricula.
	<b>Nutrition.</b> Extension is entry point for nutrition sensitive agriculture, but EAS staff first need skills by incorporating nutrition-sensitive approaches into training curricula.
	<b>Monitoring, evaluation, and learning.</b> Develop monitoring and evaluation and learning systems and capacities to track targets, understand and communicate impact, and build accountability. Countries and programs should set up metrics for tracking EAS impacts among marginalized populations, women and youth. To do so, a dashboard or suite of options, rather than a subset of standardized metrics, should be used.

## Lessons Learned

Over the years, DLEC has gained a number of lessons while engaging with partners to implement the project, shared below.

### **Outputs and results stimulate interest and engagement...**

Several of the DLEC outputs led to further engagement by Mission and USAID RFS partners. For instance, DLEC invested in a review of private sector extension in USAID projects in 28 countries. Following the report launch, we held a brown bag seminar and proactively reached out to individual USAID Missions to let them know that we could conduct follow up work based on the recommendations provided for each country. Guinea Mission expressed interest and we worked with them to develop a scope of work for a DLEC engagement, later co-funded by the Mission.

Similarly, combining implementation and research in Ethiopia and Rwanda led to further engagement and funding (see Annex B and Tables 4 and 8). In the Ethiopia case, the Ethiopia RCT with digital approaches provided evidence to proceed with FarmStack, a protocol for safe and secure data exchange in the agriculture and food ecosystem, funded by multiple donors.

Results from the RCT in Ethiopia catalyzed funding from the government to expand implementation of video-enabled extension from 89 to 118 woredas, ultimately benefiting 3.6 million farming households with improved advisory services. The government's financial contribution included \$600,000 for equipment and approximately \$1.5 million in salary costs for staff time, which is in addition to the BMGF and FCDO investment for strengthening the extension system in Ethiopia.

### **...but uptake and influence take time**

The Liberia diagnostic report, which influenced the Ministry of Agriculture to include recommendations in their proposal to FAO, was produced in 2017. However, the FAO-funded program, Linking Extension and Research to Farmers for Sustainable Agriculture, Food Security and Nutrition, only got started in 2021, near the end of DLEC. This project will include a training program, standardized curriculum, and a national training-of-trainers, which will include the use of the New Extensionist Learning Kit to achieve these objectives.

We have learned that in many cases, DLEC's impact continues even if DLEC is no longer actively working in the country. For example, DLEC's work in Honduras ended in September 2019. In a final event focusing on disseminating the learnings from the in-depth assessment of extension and advisory services, the Honduran National System for Agricultural and Forestry Extension (SINEAFH) stated that it was necessary to build permanent spaces or fora to discuss and strengthen extension. Fast forward to November 2020: the Latin American Network for Rural Extension Services (RELASER) and SINEAFH hosted a virtual forum on extension, with a focus on ICT for rural extension, building directly from the DLEC event discussions.

### **Local partners are key**

The importance of local partnerships was clear throughout the life of DLEC. The project was most successful when the local actor was the primary driver of the engagement, as the learning question and activities align with its priorities and uptake of learning directly affects farmers. This was evident in Ethiopia and Rwanda, where the goal was to provide data for resource allocation decisions that directly improve the services that the public extension system (in Ethiopia) and volunteer farmer promoters (in Rwanda) provide to farmers.

In working with USAID Mission in Guinea to co-fund an engagement on strengthening public and private extension, we ran into delays and the Guinea engagement had to be compressed from nine months to just four. However, DLEC's ongoing relationship with the RESCAR-AOC allowed us to move work forward by preparing workplans and scopes of work and budget while waiting for the buy-in to be formalized. DLEC was able to quickly accelerate implementation thanks to this strong partnership.

Sustainability is important for projects such as DLEC, so having local, long-term partners helps. In Guinea, the DLEC team worked with ANPROCA – the national extension program in Guinea, RESCAR-AOC, and other institutions in the country and region to ensure the new country forum get continued support in the future.

### **Adaptive management and flexibility are needed...**

DLEC adjusted work in light of changing conditions and in response to USAID Mission requests. In some cases, these allowed for experimentation, in other cases it opened the doors for additional funds and/or new activities.

For instance, as a result of the COVID-19 pandemic, DLEC adapted existing activities to include **deliberate digital approaches**. While DLEC had been promoting the use of digital extension tools as part of its engagements over the first four years, the COVID-19 pandemic highlighted the need to use digital extension tools. As such, the three active engagements pivoted to use multiple digital extension dissemination channels. Furthermore, the Niger diagnostic study highlighted how the SOILS Consortium can leverage digital tools, not only in light of COVID-19 restrictions, but into the future as part of a more robust digital extension strategy. DLEC organized a virtual East Africa CoP in August 2020 and a virtual Annual CoP Convening in April 2021. DLEC hosted a webinar on how EAS can support farmers during crises based on learnings from previous outbreaks. As part of our mandate to share learnings, DLEC prepared a best practices document on how to use digital approaches to reach farmers during COVID-19 that has been shared with USAID Missions. These examples demonstrate why EAS research and evidence, along with digital public goods (e.g., the New Extensionist Learning Kit, videos, data) are becoming more important both during and beyond DLEC, as a way to continue reaching stakeholders with improved EAS.

DLEC sought to be **responsive to the needs to Missions**, which in cases led to buy-ins to conduct additional studies or activities. For instance, the Mission in Guinea requested DLEC's support following a global study that included Guinea, which had recommendations to strengthen EAS in Guinea that warranted an additional investment in an engagement to implement some of the recommendations.

Finally, DLEC adapted the approach to diagnostics based on changes in Feed the Future countries and in response to initial findings. At first, studies analyzed a country's EAS system from a landscape perspective. Eventually, studies became more thematic and specific in nature, mostly in



response to USAID and Mission priorities. For instance, when youth showed up as an important issue in Rwanda and Uganda, we subsequently conducted diagnostics specifically on youth's role in EAS.

### ...especially when political and institutional realities influence projects

DLEC adapted planning several times in response to political realities. For instance, we had to cease work in Central America and turn down work in Burma due to USAID funding restrictions in those places. Also, due to changes in the US administration, many Missions were not ready to commit to activities since they were not yet sure of their funding. In some instances, Missions were developing new CDCS and did not want to engage with DLEC prior to completion. This led to missed opportunities in the case of Rwanda, for instance.

In Uganda we had good engagement with the Mission and other partners, but we did not receive additional funding despite multiple efforts. However, Digital Green is finalizing an award (\$200,000) from FAO to implement video-based extension, based on the Uganda ICT engagement evidence.

### Not all projects work the same

From the beginning DLEC planned for significant work through associate awards, as has been the case in other Leader with Associate Awards. However, these did not materialize for various reasons. Early on, DLEC was approached by Missions in Afghanistan and Nigeria to conduct large activities that were above our LWA cap and partially outside of our core expertise. Taking these on could have narrowed DLEC's focus to essentially two countries. Strategic thinking was required to weigh the opportunities against what we already had in our workplan with existing DLEC funding. However, DLEC did get buy-in from other donors/countries/partners, as mentioned in earlier sections, demonstrating ongoing influence on EAS.

## Future Challenges, Opportunities and Recommendations

Based on the DLEC experience, what is next for EAS program financing and implementation? Many challenges and opportunities exist. DLEC shares some recommendations here to deal with challenges and take advantage of opportunities. Future EAS programming should **continue support** to women- and youth-friendly, demand-driven, digitally-enabled EAS systems, and focus on the **evidence base, partnerships and local capacities**, while being **embedded in knowledge networks**.



*To understand the impact of our work, document achievements, learn to do things better. Incorporate impact assessments into project planning. Long-term, locally-based and driven tools for M&E that can be adapted by extension providers to help build farmer resilience and prepare for environmental and social changes. This can also help translate science/research into practice and policy that is contextually relevant.*

– CoP Participant

Throughout the life of DLEC, but particularly at the last Community of Practice event in April 2021, there were repeated calls to **continue support** to programs like DLEC and extension in general. This is a critical time for



*We should continue the efforts with youth engagement in extension and how to draw upon youth-adult partnerships to create innovative solutions within communities for resiliency. Small grant programs could promote these programmatic efforts.*

– CoP Participant

agriculture, for extension and advisory services and for commitments to the Sustainable Development Goals, as discussed by Rob Bertram at the [final DLEC CoP event](#). Future funded EAS programs or DLEC follow-on should focus on topics addressing challenges such as climate change while addressing diversity, equity and inclusion (especially for women and youth). Extension staff need to have climate-smart, nature-positive solutions in their toolkit. We need more evidence on approaches and tools to better reach farmers with climate information, and future programs should build capacity to get the evidence as well as generate it. The youth population continues to grow and while there are efforts to include youth, the average age of farmers and extension staff is high. This presents an opportunity in terms of providing youth access to finance for agricultural enterprises. ICTs, especially digital ones, extend the reach and improve the efficiency and quality of extension messaging<sup>5</sup> and should be used in all programs going forward. However, another challenge is to prevent the “digital divide” from excluding smallholder farmers, especially women, from extension advice. This presents an opportunity to intentionally design programs and messaging to be inclusive; to emphasize data stewardship and to continue to digitalize EAS. For future capacities of extension organizations and staff, professionalization and curriculum reform are needed to provide staff with enhanced functional competencies. See our full list of recommendations in the final learning [brief](#).

Extension has both costs and benefits. What is the value-add of extension? We need to tell that story. The lack of ability to show impact has not helped EAS advocacy and support. As mentioned above, the DLEC and MEAS projects have started to expand the **evidence base**. We also have the Community of Practice to take this forward. Extension stakeholders should need to think about the opportunities for linking extension learning and approaches across the Global North-South.

**Local capacity development** can occur best by adhering to the following seven principles, presented by Jessica Bagdonis at the final Community of Practice event:

1. Start with the local system.
2. Develop diverse capacities.
3. Align capacity development with local priorities.
4. Appreciate and build on existing capacities.
5. Be mindful of, and mitigate, unintended consequences of our capacity development.
6. Practice mutuality with local partners.
7. Measure performance improvement in collaboration with local partners.

We also must think about *collective* capacity development. Extension needs capacities for multistakeholder **partnerships** and collaboration. As we consider the future of agrifood systems and the sustainable development goals, it is clear organizations must work together to achieve the SDGs.



*We need to create clear pathways as a career for extensionists between higher education institutions, research centers, and other entities.*

7 – CoP Participant

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1. Summary

Human capital is the core of extension and therefore, extension staff competencies and skills are key, as are mindsets and attitudes. This is all part of being a professional. One of the last activities of DLEC was producing an infographic with the CGIAR Big Data Platform Digital Development Platform on “the extension agent of the

hija, S., and Campenhout, B. (2021). "Information and Communications in Developing Countries." Annual Review of Resource Economics,

future.” This talked about the knowledge, skills, and attitudes needed by extension staff in future. For instance, empathy was noted as one of the most overlooked characteristics of extension agents. Targeted at the global extension community, especially international scientists using digital tools and data to scale their work, this infographic helps to describe the importance equipping EAS staff to do their job.

Finally, ***extension must be embedded in a knowledge network***. A recent [commentary](#) asked “Hey, Siri, what’s the future of extension?” It examined the unprecedented competition extension faces in the information marketplace. Information is everywhere and we can ask Google or Siri how to grow and market crops. Do we still need extension? Will extension lose political support and audiences due to digitalization? It is more critical than ever that extension be embedded in a knowledge community, which produces quality content for apps and other digital tools. DLEC learned that farmers use Facebook for agricultural information in Myanmar, but that they only trust information from institutions such as the extension department. Extension needs to remain as that trusted local advisor and provide support for rural communities. For digital EAS approaches to work, and given the many actors and models in existence, future investment and programming should focus on enabling tools, systems and infrastructure (e.g., content, protocols like FarmStack, etc.) so that Missions and implementing partners can pick and choose what they want without being overwhelmed.

Embedded in the knowledge network is the extension and advisory services community of practice from the Global North and South – a group of committed experts who contribute knowledge and evidence with their colleagues and support exchange of research, learnings, data and technology. Sustaining the CoP is important, and organizations such as GFRAS and their regional and country platforms are already grappling with how to sustain such local institutions, or knowledge networks. Interesting, the solution seems to take up the elements mentioned above: evidence, partnerships, and local capacity. Evidence is needed to show the importance of extension to ensure support. Partnerships can help to shoulder the burden of costs. Local capacity is needed for communities to gather and share the evidence with partners.

DLEC’s sustainability plan lay in incorporating our diagnostic recommendations, best-fit practices demonstrated by DLEC engagements and Transforming Extension principles into new and existing projects and country strategic plans within USAID Missions and their implementing partners, as well as other donors and development organizations. There is an opportunity now for the United States government to elevate extension globally; however, this will require specific support to extension, in addition to keeping extension embedded within most “projects.”

As we look into the future, extension and advisory services are more critical than ever. Future extension programs should continue support to women- and youth-friendly, demand-driven, digitally-enabled EAS systems, while continuing to focus on the evidence base, partnerships and local capacities, and being better embedded in knowledge networks.

## ANNEX A: INDICATOR TABLE

**Table A1. Current Indicators**

Level of Result	Indicator	Actual Prior Years	Target FY 21	Actual FY 21	Target YTD	Actual YTD	Target LOP
Project Purpose: Sustainably improve EAS in Feed the Future and aligned countries by influencing the design and implementation of EAS programming							
Outcome: Integration of evidence-based approaches to relevant, effective and sustainable EAS systems into agriculture sector programming	<b>1. Number of partners adopting recommendations to improve EAS program operations (* in list below indicates new in FY21)</b>						
	Donor and international organization (donor, country, EAS characteristic)	18	2	1	7	19	7
	1. Government of the Netherlands (Bangladesh, market engagement) 2. FAO Uganda (community engagement and advisory methods) 3. BMGF Agriculture Development Program (Ethiopia, advisory methods) 4. FCDO (formerly Dept. for Int'l Development) (Ethiopia, advisory methods) 5. FAO Ethiopia (Ethiopia, advisory methods) 6. BMGF Monitoring, Learning and Evaluation (Metrics for Extension) 7. World Bank (Metrics for Extension) 8. USAID (Metrics for Extension) 9. AGRA (advisory methods) 10. FAO Research and Extension Unit (Metric for Extension) 11. USAID Guinea (private sector study) 12. USAID Rwanda (youth in extension study) 13. USAID Guatemala (youth in extension study) 14. USAID Niger (youth in extension study) 15. FAO South Sudan (South Sudan, advisory services) 16. World Bank Million Farmer Platform (Kenya, advisory services) 17. USAID Youth (youth inclusion in Rwanda and Uganda study) 18. USAID Nigeria (integration of MIP methodology to new award) 19. *French Development Agency (inclusion of Guinea as focal county)						
	Public sector (country, EAS characteristic)	17	2	3	19	20	19
	1. Ministry of Agriculture, Republic of Liberia (multiple) 2. Ministry of Agriculture Extension Directorate, Ethiopia (advisory methods) 3. Ethiopia Agriculture Transformation Agency (advisory methods) 4. Ministry of Ag. Crop Protection Directorate, Ethiopia (advisory methods) 5. Rwanda Agricultural Board (Livelihood strategies and community engagement) 6. Rwanda Ministry of Agriculture and Animal Resources (same as above) 7. Rwanda Ministry of Local Government (same as above) 8. Nigeria Federal Ministry of Ag and Rural Development (advisory methods)						

Level of Result	Indicator	Actual Prior Years	Target FY 21	Actual FY 21	Target YTD	Actual YTD	Target LOP
	9. Honduras Directorate of Ag Science and Technology (coordination capacity) 10. Makueni County (Kenya, advisory services) 11. Kenya Agricultural & Livestock Research Organization (Kenya, advisory services) 12. Uganda Ministry of Agriculture, Animal Industry and Fisheries (Uganda VAM study) 13. Kayunga Local Government Unit, Uganda (NELK customization) 14. Kiambu County, Kenya (Kenya engagement scaling) 15. Kirinyaga County, Kenya (Kenya engagement scaling) 16. Nandi County, Kenya (Kenya engagement scaling) 17. Nyeri County, Kenya (Kenya engagement scaling) 18. *Nyandurua County, Kenya (Kenya engagement scaling) 19. *ANPROCA (Guinea country forum engagement) 20. *University of Rwanda (national university, NELK Rwanda engagement)						
	NGO implementer (local/international, country, EAS characteristic)  1. Dhaka Ahsania Mission (local NGO, Bangladesh, market engagement) 2. Interchurch Org. for Development Cooperation (ICCO) (Bangladesh, market engagement) 3. SNV (Bangladesh, mkt engagement) 4. Fintrac (Ethiopia, advisory methods) 5. Krishi Utsho (Bangladesh, market engagement) 6. Bank Asia (Bangladesh, market engagement) 7. School of Oriental & African Studies, University of London (Bangladesh, market engagement) 8. CABI (Ethiopia, advisory methods) 9. CNFA (Rwanda, livelihood strategies and community engagement) 10. One Acre Fund (Rwanda, livelihood strategies and community engagement) 11. Winrock (Nigeria, advisory methods) 12. International Rescue Committee (South Sudan, advisory services) 13. Rucap X2 (South Sudan, advisory services) 14. ZOA (South Sudan, advisory services) 15. Food Security Cluster (South Sudan, advisory services) 16. *SOILS Consortium (Niger study) 17. *RESCAR-AOC (Guinea country forum) 18. *CIRAD (inclusion of Guinea as focal county) 19. *RTI (Kenya engagement)	15	13	4	19	<b>19</b>	19
	Private sector firm (country, EAS characteristic)  1. Sahel Capital Advisors (Nigeria, advisory methods)	14	0	5	5	<b>19</b>	5

Level of Result	Indicator	Actual Prior Years	Target FY 21	Actual FY 21	Target YTD	Actual YTD	Target LOP
	2. L&Z Integrated Farms (Nigeria, advisory methods)						
	3. FrieslandCampina WAMCO (Nigeria, advisory methods)						
	4. ThriveAgric (Nigeria, advisory methods)						
	5. MASCO (South Sudan seed co., advisory services)						
	6. GAIS (South Sudan seed co., advisory services)						
	7. SEED GROW (South Sudan seed co., advisory services)						
	8. AFFA (South Sudan seed co., advisory services)						
	9. Green Horizon (South Sudan seed co., advisory services)						
	10. Gumbo Glow (South Sudan seed co., advisory services)						
	11. SUDD Seed Enterprise (South Sudan seed co., advisory services)						
	12. Afrognanics (South Sudan seed co., advisory services)						
	13. KEREPI Enterprise Inc. (South Sudan seed co., advisory services)						
	14. Uganda Coffee Federation (Uganda VAM study)						
	15. *Kenya Biologis (Kenya engagement)						
	16. *Real IPM (Kenya engagement)						
	17. *Farm Track (Kenya engagement)						
	18. *Faina Innovations (Kenya engagement)						
	19. *Ifarmkconnect (Kenya engagement)						
	<b>Partners Total</b>	<b>64</b>	<b>17</b>	<b>13</b>	<b>50</b>	<b>77</b>	<b>50</b>
	<b>2. No. households served with improved EAS programs (listed by influence point of origin) (<i>only engagements with direct reach have targets; indicator target represents an aggregate</i>)</b>						
	Market engagement (Bangladesh) (direct) - concluded	5,324	N/A	-	-	5,324	4,000
	Bangladesh (PROOFS I) (indirect) - concluded	1,215	N/A	-	-	1,215	-
	Bangladesh (Dhaka Ahsania Mission) (indirect) - concluded	217	N/A	-	-	217	-
	Private sector-led extension (Nigeria) (indirect) - concluded	3,129	N/A	-	-	3,129	-
	Participatory Identification of Priority Practices (Nigeria) (direct) - concluded	300	N/A	-	-	300	300
	Community Engagement & Advisory Methods (Uganda) (direct) - concluded	5,099	N/A	-	-	5,099	-
	Advisory Methods & Governance Impact Evaluation (Ethiopia) (indirect) - concluded	438,488	N/A	-	-	438,488	-
	Integrated Messaging to Combat Fall Armyworm (Ethiopia) (direct) - concluded	18,852	N/A	-	-	18,852	25,000
	Improving Agricultural Advisory in Ethiopia through Digital (Ethiopia) (indirect) - active	24,466	-	157,233	-	181,699	-
	National Scale-Up of Incentives for Extension Agents (Rwanda) (direct) - concluded	685,606	N/A	-	-	685,606	450,000
	Agriculture Investment Program (Liberia) (indirect)	-	N/A	-	-	-	-

Level of Result	Indicator	Actual Prior Years	Target FY 21	Actual FY 21	Target YTD	Actual YTD	Target LOP
	Digital Extension to Control Mango Fruit Flies (Kenya) (direct)	-	10,000	2,758	10,000	2,758	10,000
	World Bank Million Farmer Platform (Kenya) (indirect)	-	-	25,735	25,000	25,735	25,000
	Digital Extension to Drive Uptake of Improved Seeds (South Sudan) (indirect)	-	N/A	0	-	0	100,000
	Strengthening Digital Capacities and Integrating Youth in Public and Private Extension in Rwanda (Rwanda) (indirect)	-	-	0	-	0	3,000
	Strengthening Extension and Advisory Services in Guinea through National Frameworks for Stakeholder Consultation and Coordination (Guinea) (direct)	-	-	0	-	0	0
	<b>Households total (direct and indirect)</b>	<b>1,182,969</b>	<b>214,555</b>	<b>185,726</b>	<b>1,000,000</b>	<b>1,368,422</b>	<b>1,000,000</b>
	<b>3. Net promoter score for CoP participants</b>	<b>33</b>	<b>50</b>	<b>57</b>	<b>50</b>	<b>57</b>	<b>50</b>
Output 1: Generation and documentation of evidence-based approaches to EAS strengthening	<b>1. Number of diagnostics, studies and other publications finalized and shared</b>						
	EAS diagnostics (desk studies, in-depth EAS system assessments, diagnostics, stakeholder meeting reports) or workshop summaries	20	N/A	1	11	21	11
	Non-academic EAS-related publications	24	1	1	16	25	16
	Journal articles	5	1	3	3	8	3
	<b>Publications Total</b>	<b>49</b>	<b>5</b>	<b>5</b>	<b>30</b>	<b>54</b>	<b>30</b>
	<b>2. Number of engagements designed and initiated</b>	<b>12</b>	<b>0</b>	<b>0</b>	<b>14</b>	<b>12</b>	<b>14</b>
Output 2: Sharing and advocacy of evidence-based approaches to EAS strengthening	<b>1. Number of regional or global conferences (non-USAID) for which DLEC influences agenda to include EAS (distinct events)</b>	<b>5</b>	<b>2</b>	<b>10<sup>6</sup></b>	<b>10</b>	<b>15</b>	<b>10</b>
	<b>2. Number of instances of participation by individuals at knowledge sharing events coordinated and facilitated by DLEC Community of Practice/stakeholder workshop events</b>	<b>2,435</b>	<b>730</b>	<b>369</b>	<b>2,460</b>	<b>2,804</b>	<b>2,460</b>
	<b>3. Number of registered DLEC CoP members (cumulative #)</b> <i>Indicator discontinued Sept 30, 2020 due to transition of HiveBrite community to GFRAS</i>	<b>656</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>656</b>	<b>1,000</b>
Country Engagements							
Output Engagement	<b>EG.3-2 Number of individuals participating in USG food security programs</b>						
	Participatory Identification of Priority Practices (Nigeria)						

<sup>6</sup> Includes previous unreported events influenced



Level of Result	Indicator	Actual Prior Years	Target FY 21	Actual FY 21	Target YTD	Actual YTD	Target LOP
	Producers/Smallholders (Male: 300; Female 0)	300	N/A	0	300	300	300
	Integrated Messaging to Combat Fall Armyworm (Ethiopia) Producers/Smallholder (M/F)	18,852	N/A	0	25,000	18,852 M 13,574 F 5,278	25,000
	Building Capacity for Public EAS Coordination (Honduras) People in gov't (DICTA technical research staff & research unit coordinators)	28	N/A	0	12	28	12
	National Scale-Up of Incentives for Extension Agents (Rwanda) Producers/smallholder (M/F)	685,606	N/A	0	450,000	685,606 M 362,686 F 322,920	450,000
	People in civil society (community extension volunteers)	11,523	N/A	0	12,195	11,523 M 9,725 F 1,798	12,195
	Digital Extension to Control Mango Fruit Flies (Kenya) Producers/smallholder	0	2,000	2,758	10,000	2,758	10,000
	Enhance awareness of and uptake of new seed varieties (South Sudan) (concluded) People in civil society (proprietors of private sector firms and NGO staff)	25	N/A	0	9	25	9
	Nepal engagement (cancelled) People in civil society and government (municipal)	N/A	10	0	10	0	10
	Strengthening Digital Capacities and Integrating Youth in Public and Private Extension in Rwanda (Rwanda) Producers/smallholder (M/F)	0	32	33 M 24, F 9	3000	33 M 24, F 9	3000
	Strengthening Extension and Advisory Services in Guinea through National Frameworks for Stakeholder Consultation and Coordination (Guinea) People in gov't (ANPROCA)	0	N/A	21	50	21	50
	Total (Revised from FY21 work plan)	716,309	2,032	2,812	497,526	719,146	497,526
	Subtotal Producers/smallholder	704,758	2,000	2,791	485,300	707,549	485,300
	Subtotal People in civil society	11,523	32	0	12,217	11,548	12,217
	Subtotal People in government	28	0	21	9	49	9
	<b>EG.3.2-24 Number of individuals in the agriculture system who have applied improved management practices or technologies with USG assistance</b>						
	National Scale-Up of Incentives for Extension Agents (Rwanda) (concluded)						



Level of Result	Indicator	Actual Prior Years	Target FY 21	Actual FY 21	Target YTD	Actual YTD	Target LOP
	Producers/smallholder farmers	561,748	N/A	0	112,500	561,748	112,500
	Digital Extension to Control Mango Fruit Flies (Kenya) Producers/smallholder farmers	0	1,000	25	5,000	25	5,000
	Total Producers/smallholder	561,748	1,000	25	117,500	561,773	117,500

Engagements in Bangladesh (concluded FY19), Uganda and Nigeria Sahel (concluded FY18) reported against retired Feed the Future indicators reported in Table A2 below. The Uganda engagement did not have targets because it was a study but does report actuals.

## A2. Completed Engagements Reporting against Retired Feed the Future Indicators

Level of Result	Indicator	Actual Prior Years	Target FY 19	Actual FY 19	Target YTD	Actual YTD	Target LOP
Output Engagement (concluded)	<b>EG.3.2-1: Number of individuals who have received USG-supported short-term agricultural sector productivity or food security training</b>						
	Community engagement & advisory methods (Uganda) Male: 2,357; Female: 2,742	5,099	N/A	N/A	2,900	5,099	2,900
	Market engagement (Bangladesh) (total producers/market aggregators) Male: 30; Female: 0	30	N/A	30	20	30	20
	Nigeria Sahel engagement (private & public sector EAS provider) (completed) Subtotal government/public sector EAS providers: 65 (Male: 51; Female: 14) Subtotal private sector EAS provider: 16 (Male: 11; Female: 5)	81	N/A	N/A		81	
	<b>Total (2,438 male; 2,761 female)</b>	<b>5,210</b>	<b>N/A</b>	<b>30</b>	<b>2,920</b>	<b>5,210</b>	<b>2,920</b>
	<b>EG.3.2-17: Number of farmers and others who have applied improved technologies or management practices with USG assistance (value chain actor/technology type/m/f)</b>						
	Community engagement & advisory methods (Uganda) (farmers)	1,150	N/A	N/A	N/A	1,150	1,150
	Market engagement (Bangladesh) (total farmers/marketing and distribution) Male: 4,770; Female: 554	5,324	N/A	5,324	4,000	5,324	4,000
	<b>Total</b>	<b>6,474</b>	<b>N/A</b>	<b>5,324</b>	<b>4,000</b>	<b>6,474</b>	<b>5,425</b>
	<b>EG.3.2-18: Number of hectares under improved technologies or management practices with USG assistance</b>						
	Community engagement & advisory methods (Uganda)	N/A	N/A	N/A	N/A	960	960
	<b>Total</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>960</b>	<b>960</b>
	<b>EG.3.2-4: Number of for-profit private enterprises, producer organizations, water user associations, women's groups, trade and business associations, and community-based organizations (CBOs) receiving USG food security related organizational development assistance</b>						
	Market engagement (Bangladesh) (CBO - Dhaka Ahsania Mission, 20 farmer groups)	21	N/A	20	50	21	50

	Private sector-led extension (Nigeria Sahel) (for-profit enterprises)	3	N/A	N/A	N/A	3	N/A
	<b>Total</b>	<b>24</b>	<b>N/A</b>	<b>N/A</b>	<b>50</b>	<b>24</b>	<b>50</b>
	<b>EG.3.2-20: Number of for-profit private enterprises, producer organizations, water user associations, women's groups, trade &amp; business associations &amp; community-based organizations that applied improved organization-level technologies or management practices with USG assistance</b>						
	Market engagement (Bangladesh) (CBO - Dhaka Ahsania Mission, 15 farmer groups)	16		15	37	16	37
	Private sector-led extension (Nigeria Sahel) (for-profit enterprises)	3	N/A	N/A	N/A	3	N/A
	<b>Total</b>	<b>19</b>	<b>N/A</b>	<b>15</b>	<b>37</b>	<b>19</b>	<b>37</b>

## ANNEX B: INFLUENCE AND REACH

Project (donor)	Partners adopted practices to improve EAS delivery	No. households served with improved EAS
<b>Bangladesh</b>		
DLEC engagement – Market engagement	SNV, Krishi Utsho, Bank Asia, School of Oriental & African Studies at University of London	5,324*
Agricultural Extension Support Activity (USAID)	Dhaka Ahsania Mission	217
Profitable Opportunities for Food Security (Netherlands)	Gov't of the Netherlands; ICCO Cooperation	1,215
<b>Ethiopia</b>		
Public extension system	Min. of Ag. Extension Directorate	438,488
Improving Agricultural Advisory in Ethiopia through Digital (BMGF and FCDO)	Bill & Melinda Gates Foundation (BMGF) Agriculture Development Program, Foreign, Commonwealth & Development Office (FCDO)	181,699
DLEC engagement – Fall Armyworm/Feed the Future Ethiopia Value Chain Activity (USAID)	Ag. Transformation Agency; Min. of Ag. Crop Protection Directorate; FAO Ethiopia; Fintrac; CAB International (CABI)	18,852*
<b>Guinea</b>		
DLEC engagement – Strengthening EAS through national frameworks for stakeholder consultation and coordination	ANPROCA, RESCAR-AOC, Centre for International Development, French Development Agency	N/A (strategy)
<b>Honduras</b>		
DLEC engagement – Public extension system	Directorate of Agricultural Science & Technology	N/A (strategy)
<b>Kenya</b>		
DLEC engagement – Digital extension to control mango fruit flies in Kenya / Feed the Future Kenya Crops and Dairy Market Systems Activity (USAID)	Kenya Agricultural & Livestock Research Org., Makueni County Gov't, RTI, Kenya Biologis, Real IPM, FarmTrack, Faina Innovations, Ifarmconnect	2,758
One Million Farmer Platform (World Bank)	World Bank; five additional counties (Kiambu, Kirinyaga, Nandi, Nyandurua, Nyeri)	25,735
<b>Niger</b>		
Analysis of Digital Agricultural EAS diagnostic study	SOILs Consortium	N/A (strategy)
<b>Nigeria</b>		
DLEC engagement – Private sector led extension (dairy development) (BMGF)	Sahel Capital Advisors, L&Z Integrated Farms, FrieslandCampina WAMCO	3,129*
DLEC engagement – Most impactful practices in rice	ThriveAgric; Federal Ministry of Agriculture & Rural Development	300*
Feed the Future Nigeria Agricultural Extension and Advisory Services	USAID Nigeria, Winrock International	Expected 37,500 ( <i>from most impactful practice methodology, reported in September 2021</i> )
<b>Rwanda</b>		
DLEC engagement – Using incentive to improve performance of extension services	One Acre Fund	685,606*
Twigire Muhinzi	Rwanda Agricultural Board, Min. Ag. & Animal Resources, Min. Local Gov't, CNFA	N/A (strategy)
DLEC engagement – Strengthening digital capacities / Feed the Future Rwanda Hinga Weze (USAID)	Rwanda Agricultural Board, Min. Ag. & Animal Resources, CNFA, CABI (already counted above), University of Rwanda	N/A (strategy; too early to collect data)

Project (donor)	Partners adopted practices to improve EAS delivery	No. households served with improved EAS
<b>South Sudan</b>		
DLEC engagement - Training private seed companies in digital extension in South Sudan (Netherlands)	Alliance for a Green Revolution in Africa (AGRA); 9 seed companies; FAO South Sudan; Food Security Cluster; International Rescue Committee, Rucap X2, ZOA	Not available
<b>Uganda</b>		
DLEC engagement – Integrated digital channels to provide agricultural advice	N/A	5,099*
Uganda Village Agent Model study	Min. of Ag., Animal Industry and Fisheries - Extension Directorate, Uganda Coffee Federation	N/A (strategy)
NELK customization with COVID-19 aspects	Kayunga District	N/A (strategy)
FAO Climate Resilience Program (FAO)	FAO Uganda	N/A ( <i>award made after DLEC LOP</i> )
<b>Multiple countries: Influence from diagnostics and CoP</b>		
Agriculture Sector Investment Program (FAO)	Liberia Ministry of Agriculture	N/A (strategy)
Mission planning and programming (USAID)	USAID Guatemala, USAID Niger, USAID Rwanda; USAID Guinea; USAID RFS Inclusive Development Office	N/A (strategy)
Transforming Extension Initiative	BMGF MLE office, World Bank, USAID, FAO Research & Extension Unit	N/A (strategy)
<b>Total influence and reach:</b>	<b>77 partners influenced</b>	<b>1,368,422 households reached</b>

## ANNEX C: PUBLICATIONS

DLEC diagnostic reports can be found on:

Agrilinks (<https://www.agrilinks.org/activities/feed-future-developing-local-extension-capacity-project#tab-1-3>)

Digital Green's website (<http://www.digitalgreen.org/resources-dlec/>)

*(Publications with an asterisk \* were completed in the most recent reporting period, April 1-June 30, 2021. All publications are listed in alphabetical order except diagnostic studies, which are listed by date of completion)*

Diagnostic Study Title	Completion Date
1. Bangladesh Stakeholder Workshop Summary	February 2017
2. Bangladesh: Desk Study of Extension and Advisory Services	May 2017
3. Guinea: Desk Study of Extension and Advisory Services	October 2017
4. Honduras: In-depth Assessment of Extension and Advisory Services (English and Spanish versions)	March 2017
5. Liberia: Desk Study of Extension and Advisory Services	June 2017
6. Malawi: Desk Study of Extension and Advisory Services	June 2017
7. Mali: In-Depth Assessment of Extension and Advisory Services	June 2018
8. Mozambique: Desk Study of Extension and Advisory Services	March 2018
9. Nigeria: In-depth Assessment of Extension and Advisory Services	March 2017
10. Rwanda: Desk Study of Extension and Advisory Services (Targeted Assessment)	March 2018
11. Senegal: In-depth Assessment of Extension and Advisory Services (Targeted)	March 2018
12. Extension & Advisory Services in 10 Developing Countries (cross-country analysis)	September 2018
13. Rwanda: Youth in Extension and Advisory Services	August 2019
14. Strengthening Private Sector Extension and Advisory Services Portfolio Review (Full Report and Executive Summary)	August 2019
15. Village Agent Model Study: Likely Effects on the Ugandan Agricultural Sector	September 2019
16. Guatemala: Youth in Extension and Advisory Services	July 2019
17. Niger: Youth in Extension and Advisory Services	September 2019
18. Engaging Young Agripreneurs: Options to Include Youth in Private Sector Extension and Advisory Services in Rwanda and Uganda (Full Report and Executive Summary)	August 2020
19. Strengthening Partnerships and Professionalization in Agricultural Extension in Guinea (English and French versions)	September 2020
20. East Africa Community of Practice Knowledge Sharing Event: Engaging Youth and Private Sector in Agricultural Extension and Advisory Services. Event Report	September 2020
21. *Analysis of Digital Agriculture Extension and Advisory Services in Niger	April 2021

### Conference Proceedings and Papers

Davis, K and Spielman, D.J. (2017). "Strengthening National Extension and Advisory Services Using the Best-Fit Framework." *Proceedings of the 33<sup>rd</sup> Annual Conference of The Association for International Agricultural and Extension Education "Building Resilience for Sustainable Food Systems,"* April 24 - 28, 2017, Minneapolis, Minnesota, USA. <https://www.aiaee.org/attachments/category/177/AIAEEPProceedings2017.pdf>

\*Franzel, S., Miiro, R., Uwitonze, N., Davis, K., Luzobe, B. and Rurangwa, R. (2021). Engaging Youth in Agribusiness through Private Sector Extension and Advisory Services: Lessons from Rwanda and Uganda. In: AIAEE Executive Board (ed.) Proceedings of the Virtual Conference of the Association for International Agricultural and Extension Education. April 12-14, 2021 pp. 207-2014.

Van Campenhout, B., Spielman, D., Lecoutere, E. "Designing for Effectiveness and Inclusivity: The Role of Gender Attributes in Video-enabled Agricultural Extension Campaigns." (2018, September). Conference paper Center for the Study of African Economies 2019 Conference, March 17-19, 2019, Oxford, UK. <https://custom.cvent.com/4E741122FD8B4A1B97E483EC8BB51CC4/files/86534bcc3d0e4873b212a2c98871b2e5.pdf>

Van Campenhout, B., Spielman, D., Lecoutere, E. "The Role of Gender in ICT-mediated Agricultural Information Campaigns." (2018, July). Conference paper International Association of Agricultural Economists (IAAE) 2018 Conference, July 28-August 2, 2018, Vancouver, British Columbia. DOI: [10.22004/ag.econ.277438](https://doi.org/10.22004/ag.econ.277438). Record Identifier: <https://ageconsearch.umn.edu/record/277438>

## Journal Articles

Abate, G., Dereje, M. Hirvonen, K., Minten, B. (2020). Geography of public service delivery in rural Ethiopia. World Development 136(2020). <https://doi.org/10.1016/j.worlddev.2020.105133>

Davis, K., Ndiaye, A. and Coulibaly, M. (2019). New Agricultural Advisory Services Governance Models in West Africa. Grain de Sel n°77 - Le conseil agricole a-t-il encore un sens aujourd'hui?. Available: [http://www.inter-reseaux.org/IMG/pdf/1\\_gds\\_no77\\_le\\_conseil\\_agricole\\_a-t-il\\_encore\\_un\\_sens\\_bd.pdf](http://www.inter-reseaux.org/IMG/pdf/1_gds_no77_le_conseil_agricole_a-t-il_encore_un_sens_bd.pdf) and [http://www.inter-reseaux.org/IMG/pdf/gds77\\_article\\_modeles\\_de\\_gouvernance\\_english\\_vf.pdf](http://www.inter-reseaux.org/IMG/pdf/gds77_article_modeles_de_gouvernance_english_vf.pdf)

Davis, K. and Spielman, D. J. (2017). "Applying the Best-Fit Framework to Assess and Strengthen National Extension and Advisory Services." Journal of Agricultural and Extension Education 24(3). doi: 10.5191/jiaee.2017.24307.

Davis, K., Lion K. and Arokoyo, T. (2019). Organisational capacities and management of agricultural extension services in Nigeria: Current status. South African Journal of Agricultural Extension 47(2): 118-127. <http://dx.doi.org/10.17159/2413-3221/2019/v47n2a508>

\*Davis, K. A. Snider, T. Archibald, B. Grove, and S. C. Babu. 2021. Organizational Innovation in Times of Crises: The Case of Extension and Advisory Services. Journal of International Agricultural and Extension Education 28(1): 6-14. doi: 10.5191/jiaee.2021.28101

\*Regassa, M. D., Abate, G. T., and Kubik, Z. (2021) Incentivising and retaining public servants in remote areas: A discrete choice experiment with agricultural extension agents in Ethiopia. Journal of Agricultural Economics. 2021;00:1–23. <https://doi.org/10.1111/1477-9552.12432>

\*Spielman, D., Lecoutere, E., Makhija, S., and Campenhout, B. (2021). "Information and Communications Technology (ICT) and Agricultural Extension in Developing Countries." Annual Review of Resource Economics, Volume 13. <https://www.annualreviews.org/doi/pdf/10.1146/annurev-resource-101520-080657>

Van Campenhout, B., Spielman, D. J.; and Lecoutere, E. (2020). Information and communication technologies to provide agricultural advice to smallholder farmers: Experimental evidence from Uganda. American Journal of Agricultural Economics. March 26, 2020. <https://doi.org/10.1002/ajae.12089>

## Engagement-Related Publications

Abate, G. T., Tanguy, B., Makhija, S., and Spielman, D. J. (2019). Accelerating Technical Change through Video-Mediated Agricultural Extension. Discussion Paper 01851. Washington, DC: International Food Policy



Research Institute (IFPRI).

<http://ebrary.ifpri.org/utils/getfile/collection/p15738coll2/id/133323/filename/133533.pdf>

Abate, G. T., Dereje, M., Hirvonen, K., and Minten, B. (2019). Synopsis: Geography of public service delivery in rural Ethiopia. ESSP Project Note 74. Washington, DC and Addis Ababa, Ethiopia: International Food Policy Research Institute (IFPRI) and Federal Democratic Republic of Ethiopia Policy Studies Institute.

<http://ebrary.ifpri.org/utils/getfile/collection/p15738coll2/id/133338/filename/133549.pdf>

Babu, S., Franzel, S., Davis, K. and Srivastava, N. (2021). Drivers of Youth Engagement in Agriculture. Insights from Guatemala, Niger, Nigeria, Rwanda, and Uganda. IFPRI Discussion Paper 02010.

<https://ebrary.ifpri.org/utils/getfile/collection/p15738coll2/id/134328/filename/134542.pdf>

Bennett, G. (2020) "Digital Extension Supports Seed Systems in South Sudan." Blog. Agrilinks. June 25, 2020. <https://www.agrilinks.org/post/digital-extension-supports-seed-systems-south-sudan>

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## ANNEX D: EVENTS ORGANIZED BY DLEC

*(Events with an asterisk \* were completed in the most recent reporting period, April 1-June 30, 2021. All events are listed in reverse chronological order.)*

* Event:	Brownbag - Strengthening Extension and Advisory Services in Rwanda via Feed the Future Collaboration and Coordination (co-organized with Feed the Future Rwanda Hinga Weze Activity)
Date & Location:	May 26, 2021, Virtual
DLEC Presenter:	Kristin Davis and Gelsey Bennett
Topic focus:	Rwanda engagement participation
Attendance:	27 participants
* Event:	DLEC Annual CoP Convening: Future Extension Capacities
Date & Location:	April 20-22, 2021, Virtual
DLEC Presenter:	Kristin Davis, David Spielman and Gracie Rosenbach
Topic focus:	Future Extension Capacities
Attendance:	156 participants
Event:	National Stakeholder Meeting for Strengthening Extension Capacities in Rwanda (co-organized with Feed the Future Rwanda Hinga Weze Activity)
Date & Location:	March 25, 2021, Virtual
DLEC Presenter:	David Spielman and Gracie Rosenbach
Topic focus:	Findings of capacity needs assessment and customization of the New Extensionist Learning Kit for Rwanda
Attendance:	36 participants
Event:	Webinar - Fighting Desert Locust Together (co-organized with TomorrowNow)
Date & Location:	February 3, 2021, Virtual
DLEC Presenter:	Henry Kinyua
Topic focus:	Digital extension for locust response and reaching farmers
Attendance:	62 participants
Event:	Webinar - Enhancing professionalization and partnerships in agricultural extension in West and Central Africa (co-organized with AFAAS and RESCAR-AOC)
Date & Location:	December 10 2020, Virtual
DLEC Presenter:	Kristin Davis and Patrice Djamien
Topic focus:	Guinea EAS and country forum
Attendance:	60 participants
Event:	Brown Bag - Engaging Young Agripreneurs: Options to Include Youth in Private Sector Extension and Advisory Services in Rwanda and Uganda
Date & Location:	November, 9, 2020, Virtual
DLEC Presenter:	Kristin Davis and Steve Franzel
Topic focus:	Youth in EAS
Attendance:	28 participants
Event:	East Africa Community of Practice event (co-organized with AFAAS and KeFAAS)
Date & Location:	August/September 2020, Virtual
DLEC Presenter:	Various including Kristin Davis and Henry Kinyua

Topic focus:	Various including youth inclusion, the role of private sector in EAS, digitalization of EAS, and scaling up approaches
Attendance:	386 participants over 4 webinars as part of the event
Event:	Webinar - Exploring opportunities for commercially sustainable and climate-smart advisory services
Date & Location:	July 9, 2020, Virtual/webinar
DLEC Presenter:	Elodie DeWarlincourt, Will Saab, Sommers Kline, and Andrew Lala
Topic focus:	Commercially successful EAS, resilient and climate-smart EAS
Attendance:	66 participants
Event:	Webinar - Extension and Advisory Services Roles in COVID-19: Experiences and Recommendations
Date & Location:	June 4, 2020, Virtual/webinar
DLEC Presenter:	Kristin Davis, Kevin Perkins, Esmail Karamidehkordi, Norma Samuel, Andrianjafy Rasoanindrainy
Topic focus:	Extension and advisory services, COVID-19
Attendance:	63 participants
Event:	DLEC Annual CoP Convening: Envisioning the Future of Extension (co-organized with AgReach - University of Illinois at Urbana-Champaign)
Date & Location:	March 4-5, 2020, Washington, DC
DLEC Presenter:	Multiple
Topic focus:	Envisioning the Future of Extension
Attendance:	65 participants
Event:	Brown Bag - Uganda Village Agent Model
Date & Location:	March 3, 2020, Washington, DC
DLEC Presenter:	Kristin Davis
Topic focus:	Uganda Village Agent Model
Attendance:	25 participants
Event:	Webinar - Youth in Extension and Advisory Services: Insights from Guatemala, Niger, and Rwanda
Date & Location:	December 4, 2019, Virtual
DLEC Presenter:	John-Paul Chaisson-Cardenas, Patrice Djamen, Steven Franzel, Alpha Sennon
Topic focus:	Youth in Extension and Advisory Services: Insights from Guatemala, Niger, and Rwanda
Attendance:	41 participants
Event:	Future Extension: Innovations and Evidence
Date & Location:	November 7, 2019, Washington, DC
DLEC Presenter:	Karin Lion, David Spielman and other speakers
Topic focus:	Future Extension: Innovations and Evidence
Attendance:	43 participants
Event:	CoP Honduras - Socialization Workshop: Agricultural Extension in Honduras
Date & Location:	September 27, 2019; Tegucigalpa, Honduras
DLEC Presenter:	DICTA Director Guillermo Cerritos
Topic focus:	EAS coordination in Honduras
Attendance:	34 participants



Event: CoP Uganda - Uganda Coffee Sector Stakeholder Meeting  
Date & Location: September 25, 2019; Kampala, Uganda  
DLEC Presenter: Jenny Scheer  
Topic focus: Village Agent Model Study  
Attendance: 28 participants

Event: Agrilinks Webinar: Strengthening Private Sector EAS  
Date & Location: September 11, 2019; virtual  
DLEC Presenter: Kristin Davis  
Topic focus: Strengthening Private Sector Extension and Advisory Services -- Portfolio Review  
Attendance: 257 participants

Event: Webinar - Reducing Crop Loss through Improved Post-Harvest Management  
Date & Location: July 17, 2019; virtual  
Presenter: Kevin Kelsey, IDinsight  
Topic focus: Results from IDinsight's evaluation of post-harvest handling and storage extension services in Zambia's Southern and Central provinces  
Attendance: 20 participants

Event: CoP Rwanda - Agriculture, Youth, Incentives and the Digital Era  
Date & Location: July 11, 2019; Kigali, Rwanda  
DLEC Presenters: David Spielman, Henry Kinyua  
Topic focus: Cost-effective ICT solutions for extension, best practices for incentives for farmer promoters, inclusion of youth in EAS in Rwandan context  
Attendance: 35 participants

Event: CoP West Africa Region - Network for Agricultural and Rural Advisory Services for West and Central Africa & AFAAS Regional Workshop of Last Mile Project  
Date & Location: June 24-26, 2019; Abidjan, Côte d'Ivoire  
DLEC Presenter: Kristin Davis  
Topic focus: The Future of Agricultural Advisory Services in Africa: Evidence and New Directions  
Attendance: 40 participants

Event: CoP Honduras - Workshop - Analysis of Guidelines and Actions to Strengthen DICTA  
Date & Location: June 18, 2019; Tegucigalpa, Honduras  
DLEC Presenter: DICTA staff  
Topic focus: Socialize findings from analyses of supply of and demand for EAS in Honduras; identification of best-fit EAS models; and proposal for strengthening DICTA  
Attendance: 25 participants

Event: Seminar for development partners, national research system, university community and CGIAR system  
Date & Location: May 2, 2019; Kigali, Rwanda  
DLEC Presenter: David Spielman  
Topic focus: Accelerating technical change through video-enabled agricultural extension: Evidence from Ethiopia and Uganda, and thoughts for Rwanda  
Attendance: 30 participants

Event: Webinar - Practices Impacting Yield & Incomes of Smallholder Farmers  
Date & Location: March 27, 2019; virtual  
DLEC Presenters: Kristin Davis, Abhinav Kumar, Tadele Fayso, Henry Kinyua

Topic focus:	Results and lessons learned from promoting most impactful practices in India, Ethiopia and Nigeria
Attendance:	23 participants
Event:	DLEC Annual CoP Convening: Data-Driven Extension: Insights for Collaboration Learning and Action
Date & Location:	March 20, 2019; Kampala, Uganda
DLEC Presenters:	David Spielman, Simrin Makhija
Topic focus:	Data-Driven Extension: Insights for Collaboration Learning and Action
Attendance:	67 participants
Event:	CoP Regional - New Extensionist Learning Kit Training of Master Trainers
Date & Location:	December 3-8, 2018; Pretoria, South Africa
DLEC Presenter:	Kristin Davis
Topic focus:	Training of Trainers on the New Extensionist Learning Kit
Attendance:	14 participants
Event:	CoP Nigeria - Stakeholders' Field Day Visit
Date & Location:	October 25, 2018; Kano State, Nigeria
DLEC Presenter:	Tunde Oloyede
Topic focus:	Share identified impactful practices for rice production, challenges and opportunities
Attendance:	20 participants
Event:	Webinar - Measuring Performance in Agricultural Extension: A Common Metrics Framework
Date & Location:	September 20, 2018; Virtual
Presenters:	Kristin Davis, David Spielman, Judy Payne
Topic focus:	Best-fit framework for measuring performance of extension and advisory services
Attendance:	193 participants
Event:	Results sharing workshop - DLEC Ethiopia impact evaluation (external)
Date & Location:	July 18, 2018; Addis Ababa, Ethiopia
DLEC Presenters:	David Spielman, Simrin Makhija
Topic focus:	Results of DLEC Ethiopia impact evaluation to high-level policymakers
Attendance:	26 participants
Related Event:	Results of DLEC Ethiopia impact evaluation (internal to IFPRI)
Attendance:	18 participants
Event:	Webinar - If It Worked Elsewhere, Will It Work Here?
Date & Location:	July 17, 2018; virtual
Presenters:	ATAI
Topic focus:	Framework to integrate data to help make evidence-informed policy decisions
Attendance:	27 participants
Event:	CoP Nigeria: GFRAS/DLEC/ Nigeria Forum for Agricultural Advisory Services / National Agricultural Extension and Research Liaison Services Workshop
Date & Location:	May 23-24, 2018; Zaria, Nigeria
Topic focus:	Strengthening Agricultural EAS Capacities in Nigeria
Attendance:	45 participants
Event:	CoP Central America Region - DLEC-GFRAS-RELASER-CAC Roundtable
Date & Location:	April 26, 2018; Costa Rica

Topic focus:	Strengthening Extension and Rural Advisory Services in the Central American Region
Attendance:	50 participants
Event:	CoP Myanmar - Myanmar National Extension Forum
Date & Location:	April 5-6, 2018; Yangon, Burma
Topic focus:	Establishment of GFRAS Country Forum
Attendance:	65 participants
Event:	CoP Uganda - Uganda National Agricultural Extension Symposium: Enhancing Capacity and Quality (co-organized with UFAAS)
Date & Location:	March 13-15, 2018; Kampala, Uganda
Topic focus: 1	Preliminary findings of DLEC Uganda study and synthesis of 10 DLEC diagnostics with focus on gender and nutrition in extension (plenary session)
Attendance 1:	200 participants
Topic Focus 2:	Introduction to the New Extensionist Learning Kit & Nutrition Module (parallel session)
Attendance 2:	35 participants
Topic focus: 3:	New Extensionist Learning Kit Training of Trainers (side event)
Attendance 3:	42 participants
Event:	Webinar - Gender-Inclusive, Market-Oriented Extension Models
Date & Location:	January 30, 2018; virtual
Topic focus:	Gender-Inclusive, Market-Oriented Extension Models
Attendance:	6 participants
Event:	DLEC Annual CoP Convening: Revitalizing Extension for Agricultural Development (co-organized with AgReach - University of Illinois at Urbana-Champaign)
Date & Location:	December 12-13, 2017; Washington, DC
Topic focus:	Revitalizing Extension for Agricultural Development
Attendance:	149 participants
Event:	CoP Africa Region - DLEC-GFRAS-AFAAS regional roundtable
Date & Location:	November 4, 2017; Durban, South Africa
Topic focus:	Strengthening Extension and Rural Advisory Services Systems in Africa
Attendance:	38 participants
Event:	Stakeholder Workshop: IFPRI Monthly Policy Seminar
Date & Location:	October 31, 2017; IFPRI Kampala
Topic focus:	Uganda Engagement
Attendance:	13 participants
Event:	CoP Central America Region - Honduras webinar (English)
Date & Location:	October 27, 2017; virtual
Topic focus:	Strengthening Extension and Rural Advisory Services Systems in Central America
Attendance:	7 participants
Event:	CoP Central America Region - Honduras webinar (Spanish)
Date & Location:	October 24, 2017; virtual
Topic focus:	Strengthening Extension and Rural Advisory Services Systems in Central America
Attendance:	18 participants
Event:	CoP Bangladesh

Date & Location: September 12, 2017; Dhaka, Bangladesh  
 Topic focus: Exploring Agricultural Innovations in Bangladesh to Improve Food Security  
 Attendance: 96 participants

Event: Webinar - Key results from initial diagnostic studies and paths for collaboration  
 Date & Location: February 17, 2017; virtual  
 Topic focus: Key results from initial diagnostic studies and paths for collaboration  
 Attendance: 30 participants

Event: Bangladesh Stakeholder Workshop (co-organized with BAEN)  
 Date & Location: December 1, 2016; Dhaka, Bangladesh  
 Topic focus: Identify EAS system gaps and opportunities in Bangladesh (diagnostic-related)  
 Attendance: 54 participants

Event: DLEC Global CoP Launch (Alliance for a Green Revolution Forum parallel event)  
 Date & Location: September 4-9, 2016; Nairobi, Kenya  
 Presenter: Kristin Davis, Karin Lion, Rikin Gandhi, Alex Dunlop  
 Topic focus: A Community of Practice for Agricultural Extension and Advisory Services  
 Attendance: 41 participants

## ANNEX E: EVENTS WITH DLEC PARTICIPATION

*Events marked with an asterisk \* were completed in the most recent reporting period, April 1-June 30, 2021. All events are listed in reverse chronological order. Events with a plus sign + are events in which DLEC influenced the agenda to include EAS (15 events).*

- \* Event: Accelerating technical change through video-mediated agricultural extension. Evidence from Ethiopia  
 Date & Location: April 16, 2021, Virtual  
 DLEC Presenter: Kristin Davis  
 Topic focus: Digital extension presentation to graduated student from University of Texas  
 Attendance: 22
  
- \* Event: 2021 AIAEE Conference  
 Date & Location: April 12-16, 2021, Virtual  
 DLEC Presenter: Steve Franzel  
 Topic focus: Engaging Youth in Agribusiness through Private Sector Extension and Advisory Services: Lessons from Rwanda and Uganda  
 Attendance: Unknown
  
- Event: Agricultural Extension and Advisory services: Innovations to Impact  
 Date & Location: February 25, 2021, Virtual  
 DLEC Presenter: Kristin Davis  
 Topic focus: Agricultural extension, including DLEC learnings  
 Attendance: Unknown
  
- Event: USAID Multi-Sectoral Nutrition Global Learning & Evidence Exchange - Strengthening Nutrition Competencies  
 Date & Location: February 11, 2021, Virtual  
 DLEC Presenter: Kristin Davis  
 Topic focus: New Extensionist Learning Kit  
 Attendance: Unknown
  
- Event: ES Webinar series 11/20  
 Date & Location: December 15, 2020, Virtual  
 DLEC Presenter: Tanguy Bernard, Gashaw Abate, Simrin Makhija, and David Spielman  
 Topic focus: Accelerating technical change through video-mediated agricultural extension: Evidence from Ethiopia  
 Attendance: Unknown
  
- Event: University of Florida class on International Extension  
 Date & Location: February 10, 2021, Virtual  
 DLEC Presenter: Kristin Davis  
 Topic focus: Integrating Digital Technologies into Extension  
 Attendance: 11 participants
  
- Event: FAIRshare Annual Meeting  
 Date & Location: November 19, 2020, Virtual  
 DLEC Presenter: Kristin Davis  
 Topic focus: Developing Local Extension Capacity: Learnings on Digital Extension

Attendance: 50 participants

Event: ICT4Ag 2020  
Date & Location: November 18, 2020, Virtual  
DLEC Presenter: Shreya Agarwal  
Topic focus: When Low Tech is High Tech (Using community video to strengthen extension: Learnings)  
Attendance: Unknown

Event: Feminization of Agriculture Workshop  
Date & Location: September 22, 2020, Virtual  
DLEC Presenter: Bjorn Van Campenhout  
Topic focus: The use of ICTs to challenge gender stereotypes and empower women farmers in the age of feminization of agriculture  
Attendance: 20 participants

Event: Digitalisation of Agriculture and Agricultural Extension and Advisory Service  
Date & Location: August 27, 2020, Virtual  
DLEC Presenter: Kristin Davis  
Topic focus: Digital agricultural extension  
Attendance: 282 participants

Event: National Workshop of Actors and Stakeholders to Validate the Report on Strengthening Partnerships and Professionalization of Extension and Advisory Services in Guinea  
Date & Location: August 24, 2020, Virtual  
DLEC Presenter: Kristin Davis, Patrice Djamien  
Topic focus: Strengthening Partnerships and Professionalization of Extension and Advisory Services in Guinea  
Attendance: 45 participants

Event: Validation Workshop of the study on Youth Engagement in Private Sector Extension and Advisory Services in Uganda  
Date & Location: August 20, 2020, Mbarara, Uganda  
DLEC Presenter: Richard Miiro, Beatrice Luzobe  
Topic focus: Youth Engagement in Private Sector Extension and Advisory Services in Uganda  
Attendance: 15 participants

Event: Validation Workshop of the study on Youth Engagement in Private Sector Extension and Advisory Services in Uganda  
Date & Location: August 18, 2020, Kampala, Uganda  
DLEC Presenter: Richard Miiro, Beatrice Luzobe  
Topic focus: Youth Engagement in Private Sector Extension and Advisory Services in Uganda  
Attendance: 20 participants

+ Event: Annual Meeting of the Agricultural and Applied Economics Association  
Date & Location: August 10-11, 2020  
DLEC Presenter: Carlo Azzari, Guinluigi Nico  
Topic focus: Does gendered targeting of agricultural extension mitigate the effects of weather variability and shocks in sub-Saharan Africa?  
Attendance: 61 participants

Event: UFAAS 3rd National Agricultural Extension Symposium in Uganda



Date & Location: July 20-30, 2020, Virtual and Kampala, Uganda  
 DLEC Presenter: Kristin Davis, Richard Miiro  
 Topic focus: Youth engagement in AEAS and agripreneurship  
 Attendance: 152 participants

Event: Agriculture Digital Offering as Response to COVID-19  
 Date & Location: June 4, 2020, Virtual  
 DLEC Presenter: Henry Kinyua  
 Topic focus: DLEC's work with AGRA in South Sudan and Village Agent Model  
 Attendance: Unknown number of participants

Event: Role of Agricultural Extension in Ensuring Food Security During and After the Pandemic  
 Date & Location: May 21, 2020, Virtual  
 DLEC Presenter: Kristin Davis  
 Topic focus: Role of Agricultural Extension in Ensuring Food Security During and After the Pandemic  
 Attendance: 55 participants

Event: Global Digital Development Forum  
 Date & Location: May 6, 2020, Virtual  
 DLEC Presenter: Shreya Agarwal  
 Topic focus: Lightning Talk: Learnings on Digitally Enabled Extension and its Applications to COVID-19  
 Attendance: Unknown participants (pre-recorded session), but 2,634 participants attended the forum and had access to Ms. Agarwal's presentation

Event: USAID Bureau for Food Security Brown Bag  
 Date & Location: March 3, 2020, Washington, DC  
 DLEC Presenter: Kristin Davis  
 Topic focus: Can the village agent model sustain & scale extension services? Findings from Uganda  
 Attendance: 25 participants

Event: Research seminar at the IFPRI Office  
 Date & Location: February 5, 2020, Dhaka, Bangladesh  
 DLEC Presenter: Els Lecoutere  
 Topic focus: Women's empowerment, agricultural extension, and digitalization: Disentangling information and role model effects in rural Uganda  
 Attendance: 12 participants

+ Event: South Sudan Seed Systems Stakeholder Meeting and Learning Event  
 Date & Location: December 12-13, 2019, Juba, South Sudan  
 DLEC Presenter: Henry Kinyua  
 Topic focus: Power of technology for enhancing food security  
 Attendance: 76 participants

Event: Services Portfolio Review  
 Date & Location: December 3, 2019, Nairobi, Kenya  
 DLEC Presenter: Shreya Agarwal  
 Topic focus: Smart Farming Technologies - Equipping farmers with the tools to adapt to a changing climate  
 Attendance: 100 participants

+ Event: World Cocoa Foundation Learning Event

Date & Location: November 30, 2019, Abidjan, Côte d'Ivoire  
 DLEC Presenter: Kristin Davis (virtual presentation)  
 Topic focus: Private Sector Extension and Advisory Services Portfolio Review  
 Attendance: 150 participants

Event: AFAAS Africa-wide Agricultural Extension Week  
 Date & Location: November 25-26, 2019, Abidjan, Côte d'Ivoire  
 DLEC Presenter: Kristin Davis  
 Topic focus: Youth in extension and advisory services  
 Attendance: 35 participants

Event: Sustained adoption: The impact of video-mediated agricultural extension in Ethiopia  
 Date & Location: November 19, 2019, Washington, DC  
 DLEC Presenter: David J. Spielman  
 Topic focus: Sustained adoption: The impact of video-mediated agricultural extension in Ethiopia  
 Attendance: 25 participants

Event: Feminization of Agriculture workshop  
 Date & Location: November 6, 2019, Amsterdam, The Netherlands  
 DLEC Presenter: Els Lecoutere  
 Topic focus: Empowering women with digital extension in Uganda: Effects of information and role models  
 Attendance: 15 participants

Event: Workshop on Gender, Agricultural Growth, and Rural Transformation Research at IFPRI  
 Date & Location: October 31-November 1, 2019, Washington, DC  
 DLEC Presenter: Bjorn Van Campenhout  
 Topic focus: Increasing cooperation in agricultural households: Experimental evidence from maize farming households in Uganda  
 Attendance: 25 participants

Event: 10th GFRAS Annual Meeting: Role of RAS in Climate Change and Disaster Risk Reduction  
 Date & Location: September 31-October 4, Negril, Jamaica  
 DLEC Presenter: Ingrid Oliveira  
 Topic focus: Role of RAS in Climate Change and Disaster Risk Reduction  
 Attendance: 111 participants

+ Event: 6<sup>th</sup> African Association of Agricultural Economics Conference 2019. Session on Gender and Institutional Factors  
 Date & Location: September 23-26, 2019; Abuja, Nigeria  
 DLEC Presenter: Els Lecoutere  
 Topic focus: Empowering women with digital extension in Uganda: Effects of information and role models  
 Attendance: 15 participants

Event: IFPRI Policy Seminar: Adapting to New Climate Realities: Doing More, Better and New  
 Date & Location: September 19, 2019; Washington, DC  
 DLEC Presenter: Simrin Makhija  
 Topic focus: New Innovations in Agricultural Extension and Advisory Services  
 Attendance: 514 participants (95 in person; 414 online)

- + Event: 17<sup>th</sup> International Conference on the Ethiopian Economy  
 Date & Location: July 18-19; Addis Ababa, Ethiopia  
 DLEC Presenter: Gashaw Abate  
 Topic focus: Accelerating Technical Change through Video-Mediated Agricultural Extension (paper presentation)  
 Attendance: 25 participants
- + Event: 28th IAFFE Annual Conference at Glasgow Caledonian University, UK. Session on Social and Economic Policies and Programmes: Interventions for Gender Equality  
 Date & Location: June 27 - 29, 2019; Glasgow, UK  
 DLEC Presenter: Els Lecoutere  
 Topic focus: Empowering women with digital extension in Uganda: With information or role models?  
 Attendance: 12 participants
- Event: Workshop: Digital Acceleration of Agricultural Transformation organized by World Bank and Georgetown University  
 Date & Location: June 25, 2019; Washington, DC  
 DLEC Presenter: David Spielman  
 Topic focus: Panel discussant “The impact of digital agriculture on agricultural input industries”  
 Attendance: 25 participants
- Event: 24th European Seminar on Extension and Education  
 Date & Location: June 21, 2019; Acireale, Italy  
 DLEC Presenter: Kristin Davis  
 Topic focus: Agricultural Extension and Education for the Future  
 Attendance: 150 participants
- Event: Seminar: “Innovations for Agricultural Development in Egypt” supported by USAID and organized by IFPRI’s Egypt Strategy Support Program and the World Bank  
 Date & Location: June 20, 2019; virtual  
 DLEC Presenter: David Spielman  
 Topic focus: Accelerating Technical Change through ICT-Enabled Agricultural Extension: Evidence on Technology Adoption, Gender and Productivity  
 Attendance: 40 participants
- Event: CGIAR ShareFair (held in conjunction with the CGIAR System Council Meeting)  
 Date & Location: May 15, 2019; Addis Ababa, Ethiopia  
 DLEC Presenter: Gashaw Abate  
 Topic focus: Accelerating Technical Change through Video-Mediated Agricultural Extension (poster session)  
 Attendance: 100 participants
- Event: Brownbag, Bureau for Food Security, USAID  
 Date & Location: April 24, 2019, Washington DC  
 DLEC Presenter: Els Lecoutere  
 Topic focus: Empowering women with digital extension in Uganda: Effects of information and role models  
 Attendance: 20 participants
- + Event: Disruptive Agricultural Technology Challenge and Conference  
 Date & Location: April 5-6, 2019, Nairobi, Kenya  
 DLEC Presenter: Henry Kinyua

Topic focus: Video Enabled Extension to Bridge the Gap  
 Attendance: 300 participants

Event: Improving Agricultural Extension Metrics and Evidence Convening  
 Date & Location: April 8-9, 2019; Addis Ababa, Ethiopia  
 DLEC Presenter: Kristin Davis and David Spielman  
 Topic focus: Making the case for common metrics and overview of existing efforts  
 Attendance: 39

+ Event: CGIAR Gender Research Platform's Feminization of Agriculture Workshop (held in conjunction with the "Seeds of Change" Annual Scientific Conference)  
 Date & Location: April 8, 2019; Canberra, Australia  
 DLEC Presenter: Bjorn Van Campenhout  
 Topic focus: Use of ICTs to challenge gender stereotypes and empower women farmers in the age of feminization of agriculture  
 Attendance: 20 participants

Event: 5<sup>th</sup> International Food Security Symposium  
 Date & Location: April 2 and 3, 2019; University of Illinois at Urbana-Champaign  
 DLEC Presenter: Simrin Makhija  
 Topic focus 1: Internationally comparable metrics for agricultural extension: Potential indicators, data sources, and emerging patterns" (panel on Research Informing Institutional Approaches to Agricultural Development)  
 Attendance 1: 40 participants  
 Topic focus 2: Accelerating technical change through video-mediated agricultural extension: Evidence from Ethiopia (panel on ICTs to Strengthen Institutions for Food Security)  
 Attendance 2: 40 participants

+ Event: Center for the Study of African Economies 2019 "Economic Development in Africa"  
 Date & Location: March 18, 2019; Oxford, UK  
 DLEC Presenter: Bjorn Van Campenhout  
 Topic focus: Designing for Effectiveness and Inclusivity: The Role of Gender Attributes in Video-enabled Agricultural Extension Campaigns  
 Attendance: 25 participants

+ Event: The Knowledge Lab on Climate Resilient Food Systems: An Analytical Support Facility to Achieve the SDGs  
 Date & Location: February 7, 2019; Nairobi, Kenya  
 DLEC Presenter: David J. Spielman  
 Topic focus: Information, Innovation and Behavior: Powering ICT-Mediated Extension  
 Attendance: 35 participants

+ Event: Dasan Conference 2018  
 Date & Location: November 21-22, 2018; Seoul, Republic of Korea  
 DLEC Presenter: Kristin Davis  
 Topic focus: Agricultural ODA in Rural Advisory Services: Experiences and Lessons  
 Attendance: 50 participants

Event: CGIAR Research Program on Policies, Institutions and Markets (PIM) Steering Committee Meeting  
 Date & Location: November 12-14, 2018; Washington, DC  
 DLEC Presenter: David J. Spielman

Topic focus: Designing for Effectiveness and Inclusivity in Video-enabled Agricultural Extension  
 Attendance: 83 participants

Event: Feed the Future Legume Innovation Lab  
 Date & Location: November 9, 2018; Washington, DC  
 DLEC Presenter: David J. Spielman  
 Topic focus: Science, Society and the Future of International Agricultural Extension  
 Attendance: 7 participants

Event: Brownbag, Bureau for Food Security, USAID  
 Date & Location: November 6, 2018; Washington, DC  
 DLEC Presenter: David J. Spielman  
 Topic focus: Accelerating Technical Change through Video-mediated Agricultural Extension: Evidence from Ethiopia  
 Attendance: 24 participants

+ Event: North Eastern Universities Development Conference  
 Date & Location: October 23, 2018; Ithaca, NY  
 DLEC Presenter: Simrin Makhija  
 Topic focus: Accelerating Technical Change through Video-mediated Agricultural Extension: Evidence from Ethiopia  
 Attendance: 30 participants

Event: 9<sup>th</sup> GFRAS Annual Meeting: Addressing Challenges and Seizing Opportunities  
 Date & Location: October 22, 2018; Jeonju, Republic of Korea  
 DLEC Presenter 1: Kristin Davis  
 Topic focus 1: [Developing Effective Partnerships: Background, Framework and Definitions](#) (virtual panel keynote)  
 Attendance 1: 152 participants  
 DLEC Presenter 2: Kristin Davis and Patrice Djamen  
 Topic focus 2: Extension and Advisory Services in Developing Countries: A Cross-Country Analysis  
 Attendance 2: 16 participants

+ Event: 2018 Small Enterprise, Education and Promotion Network Annual Conference on Collaboration for Impact  
 Date & Location: October 2-3, 2018; Arlington, VA  
 DLEC Presenter: David J. Spielman  
 Topic focus: [Data-driven Agriculture: The Future of Smallholder Farmer Data Management and Use](#)  
 Attendance: 45 participants

Event: Innovations in Agriculture: Scaling Up to Reach Millions – organized by Purdue University and African Development Bank  
 Date & Location: September 25-27, 2018; West Lafayette, Indiana  
 DLEC Presenter: David J. Spielman  
 Topic focus: Public policy solutions to advance the scaling agenda  
 Attendance: 80 participants

Event: 2018 Annual Scientific Conference of the CGIAR Gender Research Platform  
 Date & Location: September 26, 2018; Addis Ababa, Ethiopia  
 DLEC Presenter: Bjorn Van Campenhout  
 Topic focus: Gendered capacities, capabilities and access to information: results from the DLEC Uganda study

Attendance: 15 participants

+ Event: 2<sup>nd</sup> International Agricultural Research Conference – organized by the Center for International Agricultural Research of the Chinese Academy of Agricultural Sciences

Date & Location: September 24-25, 2018; Beijing, China

DLEC Presenter: Kristin Davis

Topic focus: Extension in Africa: Trends and Opportunities

Attendance: 300 participants

+ Event: UNDP Green Commodities Programme (webinar)

Date & Location: September 20, 2018; virtual

DLEC Presenter: Kristin Davis

Topic focus: Best-fit framework and results from DLEC Diagnostics

Attendance: 15 participants

Event: IFPRI RISE Research Day

Date & Location: September 12, 2018; Washington, DC

DLEC Presenter 1: Simrin Makhija

Topic focus 1: Accelerating Technical Change through Video-mediated Agricultural Extension: Evidence from Ethiopia

Attendance 1: 30 participants

DLEC Presenter 2: Bjorn Van Campenhout

Topic focus 2: Designing for Effectiveness and Inclusivity in Video-enabled Agricultural Extension: Evidence from Maize Farmers in Eastern Uganda

Attendance 2: 30 participants

DLEC Presenter 3: Kristin Davis

Topic focus 3: Agricultural Extension Modalities: Results from the DLEC Cross-country Analysis

Attendance 3: 30 participants

Event: 30<sup>th</sup> International Conference of Agricultural Economists

Date & Location: August 2, 2018; Vancouver, Canada

DLEC Presenter: Bjorn Van Campenhout

Topic focus: Designing for Effectiveness and Inclusivity in Video-enabled Agricultural Extension (presentation nominated for Uma Lele Gender Prize)

Attendance: 500 participants

Event: ICT4Ag 2018: New Technologies for Smallholder Farmer Communities

Date & Location: June 14, 2018; Washington, DC

DLEC Presenter: David Spielman, IFPRI; Bernard Pelletier, Farm Radio International; Melissa Persaud, Viamo

Topic focus: How to Reduce Gender Divides in ICT for Ag Programs?

Attendance: 25 participants

+ Event: Global Food Security Symposium, Chicago Council on Global Affairs

Date & Location: March 21-22, 2018; Washington, DC

DLEC Presenter: Rikin Gandhi

Topic focus: Connecting the Food System to the Information Economy

Attendance: 400 participants

Event: USAID Digital Development Forum: The Next Ten Years

Date & Location: March 9, 2018; Washington, DC

DLEC presenter: Alex Dunlop



Topic focus 1: Digital Integration to Amplify Agricultural Extension in Ethiopia  
Attendance 1: 150 participants  
Topic focus: 2 How Digital Tools are Transforming Agriculture Extension: New innovations can radically change ag extension practices – if we adopt and scale-up new methodologies with smallholder farmers and their supporting ecosystems.  
Attendance 2: 22 participants

Event: USAID training  
Date & Location: February 7, 2018; Pretoria, South Africa  
DLEC presenter: Kristin Davis  
Topic focus: Evolution of digital extension in USAID programs  
Attendance: 15 participants

Event: USAID Digital Tools for Agriculture Insurance launch event and Feed the Future partner convening  
Date & Location: January 26, 2018; Washington, DC  
DLEC presenter: Alex Dunlop  
Topic focus: Integrating digital extension with output marketing: lessons from India & Bangladesh  
Attendance: 42 participants

Event: USAID Ag Core Course  
Date & Location: December 14, 2017; Washington, DC  
DLEC presenter: Kristin Davis  
Topic focus: History of extension, modern EAS systems, how to design best-fit EAS interventions and USAID approaches to extension  
Attendance: 21 participants

Event: ICT4Ag 2017  
Date & Location: June 23, 2017; Washington, DC  
DLEC presenter: Alex Dunlop, Karin Lion  
Topic focus: 1) Seeding & Scaling Digital Extensions Services" DLEC learning on ICT in EAS (panel) and 2) How We Can Embrace Digitally-Enabled, Data-Driven Business Models (panel)  
Attendance: 36 participants

Event: Innovation for Agricultural Training and Education (InnovATE) symposium  
Date & Location: June 8-9, 2017; Washington, DC  
DLEC presenter: David Spielman, Steve Franzel  
Topic focus: Policies and programs to engage the private sector, women and youth in EAS (think tank session)  
Attendance: 17 participants

Event: ICT4D  
Date & Location: May 15, 2017; Hyderabad, India  
DLEC presenter: Karin Lion  
Topic focus: When advocacy works: Influencing through ICT and grassroots organizations” Use of ICT to increase reach, scale, transparency, quality and cost-effectiveness, inclusivity and accountability of EAS systems (panel discussion)  
Attendance: 20 participants

Event: Association for International Agricultural Extension Education  
Date & Location: April 24-28, 2017; Minneapolis, MN  
DLEC presenter: Kristin Davis

Topic focus: Best-fit framework - an effective tool for designing & analyzing an EAS system  
Attendance: 25 participants

Event: ICT4Ag 2016  
Date & Location: June 10, 2016; Washington, DC  
DLEC presenter: Alex Dunlop  
Topic focus: Institutionalizing ICT-enabled extension (Lightning Talk); Integrating multiple ICT platforms (panel discussion)  
Attendance: 100 participants

# ANNEX F: ANNUAL CoP CONVENING REPORT



## Feed the Future Developing Local Extension Capacity (DLEC) Annual Community of Practice Convening Future Extension Capacities Event Report April 20-22, 2021, Virtual Event

### Introduction

The Feed the Future Developing Local Extension Capacity (DLEC) Annual Community of Practice Convening took place virtually on April 20-22, 2021. The event brought together agricultural extension and advisory services (EAS) stakeholders from around the world to share, learn, and network. Some 152 participants participated in the event, including seven USAID staff. The Convening served as a forum for diverse stakeholders to share their experience around issues of extension capacities.

The theme for this year's Convening was **Future Extension Capacities**. As DLEC wraps up five years of implementation, the project placed special focus on disseminating learnings and sharing knowledge. The DLEC team analyzed all diagnostic studies and other relevant reports to identify key EAS recommendations. One challenge in EAS that was consistently brought up in the review was the need to strengthen extension capacities and curricula—including but not limited to soft skills and business skills for extension agents, in-service opportunities for extension agents, and better curricula at all levels, from farmers to vocational training or university. With this in mind, the DLEC team focused its final Annual Community of Practice Convening on Future Extension Capacities and how, as a community of extension practitioners, we can support public and private EAS providers to build the skills of their workforce in support of farmers and rural livelihoods.

The agenda had three main themes: **connecting** as a community, **learning** from each other, and **supporting** our community into the future. All event materials (presentations, recordings, etc.) are saved [here](#).

### Connecting as a community

On Day 1, the focus of the Convening was on connecting as a community. The event kicked off with ice breakers to get to know each other. Then, Mr. Mike Michener, Deputy Assistant Administrator for USAID's Bureau of Resilience and Food Security, provided welcome remarks, bringing in his own experience growing up in a farm setting in Iowa and underpinning the importance of extension to bring innovations to the field.



Figure 1. Key recommendations topics as summarized in the DLEC project in review page.

Source: DLEC

Next, Dr. Kristin Davis, DLEC Co-Director, unveiled the project's legacy page, [Looking back – Project in review](#). This page summarizes the project's activities and main accomplishments. Along with the accompanying [brief](#), the legacy page summarizes recommendations for strengthening local extension and advisory services capacity based on five years of evidence from DLEC. By seeking audience participation, Dr. Davis was able to share some of the key recommendations from DLEC with the Convening participants.

After that, Dr. Jessica Bagdonis, Human and Institutional Capacity Development Advisor at USAID, delivered the keynote speech. In her speech, she focused on USAID's approach to inclusive development, including local capacity development, gender equality, and the use of digital tools. She presented the seven principles of local capacity development, which were referred to often by participants throughout the three days of the Convening, as well as the underlying principle of *do no harm*.

### Local Capacity Development Principles

1. Start with the local system.
2. Develop diverse capacities.
3. Align capacity development with local priorities.
4. Appreciate and build on existing capacities.
5. Be mindful of, and mitigate, unintended consequences of our capacity development.
6. Practice mutuality with local partners.
7. Measure performance improvement in collaboration with local partners.

*Figure 2. The seven principles for local capacity development.  
Source: USAID*

Participants had the opportunity to discuss and share insights from the keynote speech; key ones include:

- Empathy as a competency of extension is an important but neglected area; extension is all about relationships
- Appreciative inquiry and organizational assessment are important
- “Do no harm” is very important for local capacity – and for all development work
- Collaboration with government and development agencies is not always easy – but critical, and different in each context
- The power of the seven principles – logical, systematic, and realistic
- National extension systems often have limited capacities/resources to upscale improvements in extension
- We need to consider what implication new technologies have on the position of different categories of people in the communities (e.g. mobile phones – access by women)

### Learning from each other

Day 2 focused on learning from each other. The day started with four parallel training workshops covering the e-Extension, Integrated Pest Management, Youth Mentoring, and Nutrition-sensitive Extension modules of the New Extensionist Learning Kit ([NELK](#)). These sessions introduced the modules and gave participants an idea of how these modules could be tailored to local contexts. After that, participants were able to participate in 11 crowdsourced presentations featuring extension learnings from the DLEC community. These sessions included research, active projects, new approaches, and solutions. Refer to **Annex 1** for details of the session which covered a wide array of topics including women in extension, evaluations, private sector engagement, climate change integration, and the use of technology.

Following the NELK and poster sessions, participants reflected on the day. Reflections included:

- There are lots of creative methods of extension and creating connections
- Multiple channels (SMS, video, radio, etc.) reinforce each other and support farmers to select innovations
- Creating content for digital delivery is not easy
- I liked having a chance to break in small groups and have real discussions
- There is a lot happening in extension and more sharing events like this one are needed



Figure 3. Tweet from the Uganda Forum for Agricultural Advisory Services on day 2 of the Convening

## Supporting each other into the future

The final day of the Convening focused on supporting the community of extension professionals, into the future. The day started with five lightning talks showing how to tailor extension approaches to the local context (refer to **Annex 2** for details ). This gave way to a session on how we can adapt these, and other learnings from the previous two days, into our specific contexts. Small groups discussed resources needed for more customization of approaches, the need for more research on the impact of digital tools and digital extension, using the best-fit framework to adapt to local conditions, and using institutional assessments to organize how technical assistance is delivered. After this, the participants reflected on ways to stay connected as a community of practice, including the use of the GFRAS [Community Area](#). The event ended with closing remarks from Dr. Rob Bertram, Chief Scientist at USAID's Bureau for Resilience and Food Security, DLEC's consortium leadership, and Mr. John Peters for USAID. Last, but not least, Dr. Namukolo Covic from IFPRI recited a poem about food security.



Figure 4. Tweet from CNFA about the Feed the Future Rwanda Hinga Weze Activity's participation in the Convening

## Conclusion

Reflections from participants were captured in a “wish wall,” which summarized the community’s wishes for building future extension capacities. Some of the wishes included:

- Embed extension in a knowledge community
- Work with universities to develop curricula and future professionals



- Conduct impact assessments to learn to do things better; incorporate impact assessments into project planning
- Continue efforts to engage youth in extension and implement the learnings from the DLEC youth studies
- Use long-term, locally-based and -driven tools for monitoring and evaluation, which can be adapted by extension providers to build farmer resilience
- Conduct more studies on...using ICTs for extension
- Continue efforts to introduce and strengthen extension methodologies to increase farmer resilience to climate change
- Create clear pathways for career extension agents

Overall, we received positive feedback with participants, receiving **net promoter score of 57%**, an increase from previous Annual events. In total, the feedback survey had a 24% response rate, with 65% of all respondents being promoters and only 8% being critical detractors. Responses suggest that the highly participatory nature of the event appealed to participants and that the information shared was useful to the community. Comments from survey respondents included:

- I found the available resources very useful and applicable to my projects and country
- This is a very open, inviting, and informative group. I think such communities of practice are key to move forward.
- Very informative, interactive and engaging. The organization was super!
- Genuine spirit of exchanging
- The [Community of Practice] offers an opportunity to share and learn about technical updates and innovations, and provides exposure to really interesting people doing important research and programming

Suggestions for topics to cover in future extension and advisory services events beyond DLEC include measuring performance of extension services, gender inclusion, curricula reform, tertiary and vocational education, private sector engagement, social and behavioral change techniques to drive adoption of innovations, climate change, and how to involve youth in agricultural extension.



## Annex 1. Poster session descriptions

Name and Title	Project and/or Organization	Topic
Ben Odoemena, Chief of Party, & Ernest Ihedigbo, Private Sector Specialist	Feed the Future Nigeria Agricultural Extension and Advisory Services Activity	Private sector in extension in Nigeria
Farhad Ali, Director	Project Samvad, Digital Green	Learning and experiences in rolling out a mobile-based short course for the frontline workers in India
Marcus Laws, Senior Program Manager	Safe Agriculture/Food Export (SAFE) Project in Dominican Republic, NCBA CLUSA	Building the capacity of Dominican cattle producer organizations to provide extension services to members
Mahesh Chander, Principal Scientist & Head	Indian Veterinary Research Institute	Corporate social responsibility (CSR) funding for agricultural extension
Dan Stein, Chief Economist	IDinsight	Supercharging Extension through Personalized Mobile Phone Messages: An Impact Evaluation from Andhra Pradesh, India
Rex Chapota, Regional Program Manager	Farm Radio International	Radio for extension
Dan Gies, Chief of Party & Laurence Mukamana, Deputy Chief of Party	Feed the Future Rwanda Hinga Weze Activity	Integrating climate curriculum in agricultural extension
Monyanita Neang, Project Coordinator, F2F Project	Center of Excellence on Sustainable Agricultural Intensification and Nutrition, Royal University of Agriculture	Farmer-to-Farmer Agricultural Digital Extension in Cambodia (video competition winner)
Amanda Rodriguez, Arizona State University Global Technology & Development Graduate Student	SolarSPELL Agricultural Digital Library	SolarSPELL Agricultural Digital Library (video competition winner)
Rebecca Anna Witinok-Huber, Postdoctoral Researcher	Colorado State University	The role of extension services to build farmer adaptive capacity in the face of social and environmental change in Liberia
Muzna Alvi, Research Fellow & Prapti Barooah, Research Assistant	IFPRI	Women's access to agriculture extension amidst COVID-19: Insights from Gujarat, India and Dang, Nepal

## Annex 2. Lightning talk descriptions

Name and Title	Project and/or Organization	Topic
Jennifer Snow, Director, Agriculture and Volunteer Programs & Ibrahima Diallo, Country Director, Guinea Farmer-to-Farmer	West Africa Farmer-to-Farmer Program, Winrock International	Institutional assessments to tailor technical assistance to agricultural vocational training institutions and extension providers
Gracie Rosenbach, Country Program Manager	DLEC, IFPRI	Digital capacities of Rwanda agricultural extension agents
Rasheed Sulaiman, Director	Centre for Research on Innovation and Science Policy (CRISP) & Focal Point for the Agricultural Extension in South Asia (AESAs)	NELK customization process in Bangladesh
Ashu Sikri, Product Strategist	Digital Green	The use of data for climate advisories
Abdu Usanase, Chief Executive Officer	AGRIRESEARCH Organization	AgriTrials mobile application (video competition winner)

## ANNEX G: BRIEF: RECOMMENDATIONS FOR STRENGTHENING LOCAL EXTENSION & ADVISORY SERVICES CAPACITY



Photo Credit: Digital Green

### RECOMMENDATIONS FOR STRENGTHENING LOCAL EXTENSION & ADVISORY SERVICES CAPACITY

#### SUMMARY OF FIVE YEARS OF EVIDENCE

During its five years of implementation (May 2016-June 2021), the Feed the Future Developing Local Extension Capacity (DLEC) project produced diagnostic studies and other knowledge products about extension and advisory services (EAS) around the globe. DLEC used an adapted version of the best-fit framework<sup>1</sup> to guide our analyses of a country's EAS system, compare across countries and connect country-specific cases to broader learning on EAS and apply this to other donor and government programs and priorities. The best-fit framework suggests an impact chain approach, where extension components (governance structures, capacity, management and methods) affect their performance. The performance of the services then determines household level outcomes such as changes in behavior and attitudes, which ultimately bring about impact, i.e. yields, income, environmental effects, etc. By using this adapted framework, DLEC focused its diagnostic studies on governance structures and policy environment, organization and management capacities and culture, advisory methods, market engagement, livelihood strategies and community engagement. DLEC revisited 19 of its EAS reports (available [here](#)) and summarized the key learnings and recommendations on how EAS stakeholders can continue to strengthen extension components, performance and impact beyond the life of DLEC.

<sup>1</sup>Timmer R, Davis K, Pender J, Nkonya E, Anandajayasekaram R, Ekboir J, Mbatia A, Spielman D, Horna D, and Benin S. (2009). From Best Practice to Best Fit: A Framework for Analyzing Agricultural Advisory Services Worldwide. *Journal of Agricultural Extension and Education* 15(4): 341-355.

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For more of  
DLEC's  
accomplishments  
&  
recommendations,  
see our [project in  
activity page](#)



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## RECOMMENDATIONS

### Pluralism in Extension

Pluralistic EAS, which include government, donors, nongovernmental organizations and the private sector, are more effective when all partners collaborate to achieve desired outcomes. Coordination is key to ensure synergy, avoid duplication and ultimately support agricultural development. There is a trend toward privatization of sustainable business models, which requires service bundling given the poor track record of fee-for-extension models. Governments play a key role in coordinating EAS activities.

### Enabling Environment

Governments play an important role in creating the right enabling environment for pluralistic EAS to flourish. National agricultural extension policies are needed to promote collaboration, define roles and responsibilities and better coordinate the activities of public and private extension and of nongovernmental organizations and donors.

### Curriculum Reform and Tailoring to Local Context

EAS training curricula must be overhauled to be market-oriented, relevant and inclusive of youth and women. Extension staff should be professionalized through in-service and continuing education as well as

incentive systems. Curricula should include soft skills, business and market skills and gender, youth and nutrition-sensitive approaches. The [New Extensionist Learning Kit](#), developed by GFRAS and used by DLEC, contains 13+ modules that can be used as a starting point to tailor curricula to the local context.

### Women in EAS

According to the Food and Agriculture Organization, if women farmers had the same access to resources as men, 150 million people could be lifted out of poverty<sup>2</sup>. Women should be included



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<sup>2</sup>The State of Food and Agriculture Report (2010-11), United Nations Food and Agriculture Organization <http://www.fao.org/news/story.do/item/52011/coord/>



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in training sessions and provided with opportunities to become extension agents. For this, training sessions and activities should be held at times when women are able to attend. Targeting women within the household (as opposed to only the male co-head) with extension information has a positive effect on different domains of empowerment. These include women's knowledge of agronomic practices, their participation in agricultural decision-making and their adoption of recommended practices and inputs. Studies focusing on localized and specific ways (incentives, opportunities) for ensuring women's participation in EAS are needed. Featuring women as role models in information campaigns can create opportunities for greater involvement of women and in campaigns targeted at women can stimulate women's individual decision-making and action. Include women in leadership positions and involve them in the EAS governance structures.

#### Youth in EAS

Engaging youth in EAS is critical for livelihoods in rural areas where youth are unemployed and face barriers to entry into agriculture. The design of youth interventions should take youth heterogeneity (level of education, urban vs. rural, access to digital tools, etc.) into account. Interventions should include

digital tools, given that youth tend to be familiar with these technologies. DLEC conducted four studies focusing on specific needs and strategies for including youth in EAS, both as recipients and providers of services, yet more in-depth, studies are needed to identify the right incentives and opportunities to include youth into agriculture and EAS.

#### Digital Extension and ICTs

As mobile phone access and internet penetration grows, the use of information and communication technologies (ICTs) in agriculture is becoming more prevalent. Local context, including levels of digital literacy, smartphone use, internet penetration and cost of data plans are critical to digital extension interventions. The use of ICTs should be inclusive and not prohibit those with poor access to digital tools or who lack digital literacy; for instance, gaps in women's access to digital tools may also mean less access to extension, which needs to be mitigated. Digital channels such as video, radio, SMS, interactive voice response, etc. should not be seen as competing; rather, use multiple channels to reinforce messaging to farmers and motivate behavior change. Quality data can help deliver demand-driven extension. Secure digital data exchange can help EAS better target and tailor advisories for farmers.





Photo Credit: Diana Mrazikova/Digital Green

### Integration of Climate Change Programming in Extension

Increased incidences of drought, floods, pest outbreaks and natural disasters can be attributed to climate change; these pose severe risks to agriculture and the livelihoods of farmers. EAS should use climate-sensitive approaches and ensure that approaches build resiliency and mitigate climate change, e.g. through diversification of incomes, disaster preparedness, practices that reduce water use and emission of methane and greenhouse gases and ability to cope with shocks. More in-depth studies on how to incorporate climate change considerations and resilience into curricula would benefit farmers and extension agents.

### Nutrition-sensitive Extension Approaches

While many smallholder and subsistence farmers are producing food crops, they may not necessarily have access to a diverse and nutritious diet. Extension can be an entry point to support nutrition outcomes. There is need to provide extension agents with skills on nutrition-

sensitive extension to support farmers who face food and nutrition insecurity. Nutrition-sensitive approaches should be built into extension agent training curricula. The GFRAS [module](#) on nutrition-sensitive extension can be adapted for this.

### Monitoring, Evaluation and Learning in Extension

Monitoring and evaluation systems and the capacities to use them are important to track targets and understand the impact of EAS activities. In particular, metrics should be set for tracking extension impacts among marginalized populations, women and youth. Developing standardized metrics for extension is important but difficult because of the many contextual needs. Creating a dashboard or suite of options to choose from based on local context, rather than a subset of standardized metrics, could be effective.